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WESTERN AMERICANA

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SOUTHERN CALIFORNIA:

ITS VALLEYS, HILLS, AND STREAMS;
ITS ANIMALS, BIRDS, AND FISHES;
ITS GARDENS, FARMS, AND CLIMATE.

BY

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PREFACE.

In an age when the study of Nature has become the most popular of all subjects, no apology seems needed for a book treating of a land where the leading features of animate and inanimate nature are quite unknown to the great majority of those who love fresh fields and pastures new. To many who live in Southern California, its fields, streams, and mountains are the country's powerful charm, and they hold here in bondage many of its best and wealthiest citizens. Yet, outside of the residents the knowledge of them is comparatively slight, and the present writer is the only one who has thus far touched upon them to any extent,—nearly all of the literature about California treating only of its advantages for settlers. The present work is mainly a condensation of a book originally written for *The American Field*, and published in that journal some two years ago. Some of it has also appeared in letters to *The New York Evening Post*, *The New York Sun*, *Forest and Stream*, and other papers. As thus published, it contained much relating to the *flora* and *fauna* that must now be omitted because of its secondary importance. Nearly all too that treated of the habits and features of the game birds and animals, together with the manners and kinds of hunting, is passed over in these pages because fully treated in my other books.*

The main object of this work is to describe the natural, out-of-door attractions of Southern California. It will, of course, be quite incomprehensible to many how any one can admire a wild-duck anywhere except upon a plate; look at a mountain quail with any feeling but a desire to murder it, or see anything in a mountain brook except a source of water for an orange grove or alfalfa patch. And how any one can dwell upon such things to the exclusion of town-sites, harbors, or commercial advantages, and write of weeds, brush, and uncut firewood, instead of the excellence of this locality for apricots, and of that for wine-grapes, the marvelous profits of this, and the productiveness of that; the shortest road to this place, and the best hotel at the next town, will be positively astounding. Yet there are those who will value the book the more for these omissions: and for such only it is written. At the same time it would hardly do to pass over the features of this new civilization; for these are quite as unique in their way as are the natural features of the land. Southern California has in a few years changed as no other part of the world has ever changed: and the transition is one, not of degree, but of kind. Though limited, it seems boundless within those limits, and increases in geometrical progression as the years go on.

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* *The Still Hunter*, and *The Rifle, Rod, and Gun in California.*

Throughout the eastern country there are thousands of men who have won fortune enough and are now anxious only for its enjoyment by an easy ride down the western slope of life. "Why toil forever up the tumbling wave to sink next moment in the ocean's hollow? For what reward upon our little pinhead in space do we worry and wear ourselves away? If men can be judged by their exclamations, when both unpremeditated and disinterested, in what do they take more genuine and enduring pleasure than in a fine prospect and a fine day? And why should such pleasures be reserved for special days and seasons? Why not enjoy them continuously? We can indeed go to Florida in winter, but must fly from it with the opening of spring. We would not always be birds of passage. Along the shores of the Mediterranean or in Mexico we might possibly find what we want; but there we are exiles from our people and country. Is there no spot in our own land where both winter and summer shall bring pleasure and comfort?"

Such are the questions that men ask themselves, and many turn their eyes hopefully toward Southern California for an answer. Its distance and its "dullness," as some would call it, do not alarm them in the least. For while it is probably true enough that the majority of men would rather be lamp-posts in Gotham than princes in Arcadia, it is equally true that there is a respectable minority that would not,—a minority to whom the difference between the densest crowd in a city street and a few travelers on a country highway represents only the difference between so many head of cattle that care nothing for you, and which feeling you cordially reciprocate. People of the minority way of thinking are fast filling the habitable parts of this southern land with homes such as no other part of the world can show, and the end of their work no man can foresee. Yet, while cities, homes, and gardens arise, and the productions of the land increase in number and importance in the world of trade and traffic, still to the end of time Southern California will be a land chiefly characterized by its climate, scenery, and out-of-door attractions.

If the reader fancies he detects some flavor of partiality in this book, let him remember that it will always be quite impossible to get a book on Southern California that will not be tinctured with either ignorance or affection. The tourist of a few weeks or months may give you his faithful impressions, but instead of looking at a country you will be reading a diary of travel. You would hear the rattle of car-wheels under him, the clatter of the plates at the hotels where he stopped, and the clink of the glasses in the wine-cellars he visited; would see buildings and towns and people that you might see better in any Eastern State; but you would look in vain for California. Whether or not the description of the man whom Dante saw in Hell, carrying his head by the hair for a lantern, is intended for a satire on human observation, certain it is that the great majority of tourists and excursionists would know about as much of California if, instead of bearing their heads on their shoulders, they carried them in their hands after the manner of *Bertram dal Bornio.* On the other hand, if one stays long enough to learn all its peculiar features,—to know it in all seasons and in good and bad years; to see all its different kinds of land, its cultivation and improvements; and especially if one is a sufficient lover of nature to learn it from coast to mountain-top, and see all its birds, animals, and fishes in their native haunts,—the chances are a hundred to one that by the time such a person gets ready to write, he will be like the present writer—writing only of *home.*

T. S. VAN DYKE.

SAN DIEGO, CAL., May, 1886.

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SOUTHERN CALIFORNIA.

CHAPTER I.

A GLIMPSE OF THE LAND.

THE highest peak of the San Bernardino mountains is quite sharp and bare upon the summit, and commands a circular view of a tract fully three hundred miles in diameter, within which lies almost every variety and combination of Southern California scenery. From the top of this peak, eleven thousand feet above the general level of the habitable part of the land, one may on a clear day look down upon a landscape that embraces all possible extremes of barrenness and fertility, of wildness and civilization, with nearly all the varieties of mountain, plain, and valley that time and the elements can form. The prospect is best in midsummer, for it is only then that the distinctive features of California are brought out. Even then one needs a powerful glass, for the mountain is so lofty that it is no easy task to unravel the tangled web of shapes and colors that present themselves even at its very feet; this mountain having the peculiarity of being the highest in the United States above the general level of the country at its base.

The first thing that rivets the stranger's eye is the stupendous desert on the east, cut in two near the center by a long low range of wavy hills, bare, dry, and inexpressibly barren. The part on the north, called the Mojave Desert, is larger than Massachusetts; that on the south, called the Colorado Desert, is nearly as large. The visitor may have traveled over strips of barren land, and seen large tracts of good land called "desert" because there is no surface-water, but nowhere else in North America can one see such barrens as these; and to comprehend them in their immensity one must see them from this mountain as they lie below, gleaming beneath an eternal sun. Nowhere does the power of man in his triumphs over nature appear more insignificant than on the line of the Southern Pacific Railroad, stretching far out upon this yellow immensity, looking with its nearest stations like a spider's web with three or four gnats sitting upon it. One scarcely realizes what desolation is until looking down upon these mighty sweeps of shimmering sand, and thinking of the fiery winds that whirl the dust in those huge drifts, and of the fate of the hundreds who have tried to cross them without water.

Yawning beneath us on the south, nine thousand feet deep, is the pass of San Gorgonio, on the other side of which Mount San Jacinto rises almost to a level with our feet, making on the desert side the swiftest mountain rise in North America—ten thousand feet in less than five miles. Far away into the south leads from it the high and rugged mountain chain that shuts off the inhabitable part of the County of San Diego from the fiery breath of the desert. Tumbling toward the coast in long lines of lower mountains, foot-hills, and table-lands, with valleys and plains lying between, until lost in the highlands of Mexico, the range presents but a rolling confusion of blue, gray, yellow, brown, and green.

Around toward the north-west sweeps the great desert of the Mojave, with the blue hills of Arizona on the east, the lofty spurs of the Sierra Nevada on the north, growing hazy with distance and bounded on the south-western rim by a continuation of the range upon which we stand. Miles away these mountains run, in a long ridge nearly five thousand feet below us, clad in green forests of heavy pine until the line dips suddenly three thousand feet lower to form the Cajon Pass. Then in a moment it rolls skyward again in a wild medley of rugged hills, mounting swiftly one over another until they terminate in the peak of Cucamunga. This peak upon the south falls away ten thousand feet in less than six miles into the plains of San Bernardino, almost equaling San Jacinto in suddenness, but on the north-west breaks and rises again into another mighty mountain called "Old Baldy," and then into lower ridges, that wind away till lost to sight in the bristling heights of the San Fernando range in the northern part of Los Angeles County; and these again disappear as if merged in the last peaks of the Sierra Nevada. The western horizon is bounded by the long bright band of the Pacific,—in the morning, of silvery sheen; in the afternoon, when the sun hangs over it, all aglow with golden shimmer. And this is broken by a few dark spots with ragged edges, that one would scarcely suspect to be islands, some of them over twenty miles long and seven or eight hundred feet high.

Within this inclosure of desert, mountain, and ocean lies a tract that has not its like upon the globe. One sees valleys of the brightest verdure where the grass is fed by the drainage of the surrounding hills, and others always green with the dense foliage of live-oaks that have stood shoulder to shoulder for ages. There are smooth slopes brown with the ripened alfileria; low rolling hills, silver gray with matted wild-oats, which when green a horseman could have tied over his horse's neck; others whitish green with the tall white sage, and others grayish brown with the dense ranks of the wild-mustard stalks. Here a cañon enters the plain with a great wash from some ancient cloud-burst or season of unusual rain, cutting the level with a long deep gully, and then covering it with acres of boulder and gravel; and here another enters by a little soft valley, clad with a rich brown carpet of dried clover and flowers, with perhaps a huge rock-pile of ancient granite in its center overshadowed by the sweeping arms of some venerable live-oak. There lies the great plain itself, with its distant laguna glittering on its breast, with tall slender columns of dust marching slowly over its face where the little whirlwinds move along; the Indian girls, bright with gay calico, jogging on their little ponies, or the eight-horse team of the farmer creeping slowly, with two great wagons trailing behind. Upon a rising knoll shine the white walls of the old Spanish ranch-house, with saddled horses tied to the porch, beneath which the owner and his friends are perhaps rolling cigarettes and chattering melodious Spanish, while the herdsmen are driving the herds without.

You see the line of the water-course, now perhaps only a long dry bed of white sand, winding seaward through long green lines of sycamore, cottonwood, and willow, spreading out at times into broad groves. Perhaps the water breaks out here and there in a long shining strip, or it may flow on for miles and then sink to rise no more. Often it meanders through meadows green with perennial grass, then amid jungles of wild-rose, sweet-brier, and guatemote, along low bottom-lands where the grape-vine overwhelms the snowy bloom of the elder with a shower of green drapery, and feeding from its hidden waters little ponds fringed with green rushes, where blackbirds of red and golden wings are darkening the air above the open water, and where the cinnamon-teal is floating with its downy brood.

Along the edges the plains and valleys break into low hills covered with thin grayish-green brush, and the little hollows between them are often filled with prickly-pear, or the still more forbidding cholla cactus, as high as one's head. And often these low hills are themselves hard and stony, and covered with cactus, and often are only concretions of cobble-stones, with which the intervening hollows are also filled.

And perhaps the whole is only a succession of little mounds a few yards apart, reaching often far out upon the plain itself, looking as though a lake of soft mud had suddenly hardened while shaken into waves, but probably made by the wind heaping dust around bushes which have since died out.

These hills break into higher ones that roll in all sorts of shapes and bristle with dense, dark brush higher than one's head, or perhaps are covered with dead grass and scattered green bushes of live-oak, sumac, and fusica. Among these bushes smooth boulders of granite often shine afar like springs on the hillside, or they stand along the crests looking against the sky like houses or chimneys. Again some of these hills are only huge undulations of bare dirt, reaching for miles like chopping waves upon a stormy sea, some gray, some dingy white, others a sickly brown or red.

Beyond these secondary hills rise others, thousands of feet high, covered with dark-green chaparral, through which perhaps a clump of bright-green sycamores marks afar the presence of water. Or they may be from base to summit studded with boulders, amid which the lilac, manzanita, and live-oak struggle for foothold. Others again have long, smooth slopes, golden with dead foxtail grass, over which venerable white-oaks stand scattered. And among the jostling shoulders of these lower mountains are often little gardens of living green, sometimes sunk like lakes into their very tops. Between the ranges of such hills may lie broad valleys or wide table-lands, with surfaces like rolling prairie, all lifted into the region of abundant rains. And far above all else rise fir-plumed mountains, whose sides are robed in dark forests, below whose heads the clouds float in long streams, whose highest gulches are white with snow far into the summer, while in winter it often lies twenty feet deep, though the orange-tree is blooming scarce twenty miles away.

Such was the view of the land but a few years ago; but now valley, slope, and *mesa*, and even the mountain-sides, are dotted with bright and beautiful homes, while villages and even cities are rearing tall spires from the lately bare plains. At the western foot of the mountain rise the steeples and housetops of San Bernardino from a deep mass of green, among which may be seen the glitter of the streams and the sparkle of the artesian wells that have produced the luxuriance in which most of the city is lost to view. Nearer still lies old San Bernardino, a long line of green gardens and orchards, vineyards and rich pastures, with Mill Creek winding through it beneath an arcade of lofty alders. Farther west stands Colton, a spot fast brightening upon a lately bare waste of sand; and a few miles beyond lies Riverside, where the power of water has struck from beauty the fetters of ages and made it a veritable oasis. Hundreds upon hundreds of handsome houses, embowered in every variety of shrubbery, now rise amid orange and lemon groves, fields of alfalfa, orchards where the foliage of the apricot, prune, plum, walnut, almond, peach, or pear hide the ground beneath, vineyards where over sixty kinds of grapes are growing, and the plots of raisin-grapes alone larger than many wheat-fields of the Middle States. And that long silvery thread running far along the bare plain outside, taken from the Santa Anna River and fed by the snow-banks at our side, has done it all.

Along the foot of the dark-blue mountains that, rolling skyward farther west, shut out from view the shore-line of the distant coast, lie the fair and fertile meadows of Temescal. Over these mountains toward the coast lie the towns of Santa Anna, Orange, Tustin, and Anaheim. All these, like Riverside, were created almost entirely by the same Santa Anna River that starts here beside us, and through a gorge in the Temescal Range winds to the sea. Farther to the north we get a peep into the valley of San Gabriel—only a dim haze of green in a girdle of mountains, although its vineyards and orchards and green fields cover tens of thousands of acres; and beyond lies the city of Los Angeles, almost hidden, like San Bernardino, beneath its trees. Radiating for miles away from it are long avenues of cypress, eucalyptus, and other tall green trees; and between these avenues are great orchards of orange and lemon and every imaginable fruit, amid which stand thousands of houses surrounded by gardens of guavas, pomegranates, and other exotics, with walks lined with maguey and palm and other tropical vegetation. Dozens of villages, hamlets, and town-sites dot the intervening spaces, and everywhere the spirit of development is at work. Farther north the view into Ventura and Santa Barbara counties is intercepted by the towering peaks of the Cucamunga Range. The highest peak of that range is easily ascended, however, and there another wonderful view opens below.

But to see at its best the loveliest part of Southern California as improved, one must descend into its great valley of San Gabriel. The Sierra Madre Mountains that form its northern wall rise with a sudden sweep much higher above the valley than most of the great mountains of our country rise above the land at their feet, lifting one at once into a different climate and to a country where primeval wildness still reigns supreme. Few parts of the United States are less known and less traversed than these great hills; yet they look down upon the very garden of all California. Away up there the mountain trout flashes undisturbed in the hissing brook, and the call of the mountain quail rings from the shady glen where the grizzly bear yet dozes away the day, secure as in the olden time. From the bristling points where the lilac and manzanita light up the dark hue of the surrounding chaparral the deer yet looks down upon the plain from which the antelope has long been driven; while on the lofty ridges that lie in such clear outline against the distant sky the mountain sheep still lingers, safe in its inaccessible home.

But a few years ago this valley of San Gabriel was a long open stretch of wavy slopes and low rolling hills; in winter robed in velvety green and spangled with myriads of flowers, all strange to Eastern eyes; in summer brown with sun-dried grass, or silvery gray where the light rippled over the wild-oats. Here and there stood groves of huge live-oaks, beneath whose broad, time-bowed heads thousands of cattle stamped away the noons of summer. Around the old mission, whose bells have rung over the valley for a century, a few houses were grouped; but beyond this there was scarcely a sign of man's work except the far-off speck of a herdsman looming in the mirage, or the white walls of the old Spanish ranch-house glimmering afar through the hazy sunshine in which the silent land lay always sleeping.

The old bells of the mission still clang in brazen discord as before, and the midnight yelp of the coyote may yet be heard as he comes in from the outlying hills to inspect the new breeds of chickens that civilization has brought in; a few scattered live-oaks still nod to each other in memory of the past, and along the low hills far off in the south the light still plays upon the waving wild-oats; but nearly all else has changed as no other part of the world has ever changed. Nearly all is now covered with a luxuriant growth of vegetation the most diverse, yet all of it foreign to the soil. Side by side are the products of two zones, reaching the highest stages of perfection, yet none of them natives of this coast. Immense vineyards of the tenderest grapes of Southern Spain or Italy, yielding five or six tons to the acre, lie by the side of fields of wheat whose heads and berry far excel in size and fullness the finest ever seen in the famed fields of Minnesota or Dakota. Here the barley gives often a return that no Northern land can equal, and by its side the orange-tree outdoes its race in the farthest South, and keeps its fruit in perfection when those of other lands have failed.

Gay cottages now line the roads where so recently the hare cantered along the dusty cattle-trail; and villages lie brightly green with a wealth of foliage where the roaring wings of myriads of quail shook the air above impenetrable jungles of cactus. Houses furnished in all the styles of modern decorative art rise in all directions, embowered in roses, geraniums, heliotropes, and lilies that bloom the long year round and reach a size that makes them hard to recognize as old friends. Among them rise the banana, the palm, the aloe, the rubber-tree, and the pampas-grass with its tall feathery plumes. Perhaps the camphor-tree and a dozen other foreign woods are scattered around them, while the lawns shine with grasses unknown in other parts of the United States. The broad head and drooping arms of the Mexican pepper-tree fill along the road the sunny openings that the stately shaft of the Australian eucalyptus has failed to shade; and on every hand, instead of homely fences, are hedges of Monterey cypress, lime, pomegranate, arborvitæ, or acacia. Here and there one sees the guava, the Japanese persimmon, Japanese plum, or some similar exotic, cultivated, like the olive and quince and lemon, for pleasure more than profit; but grapes and oranges are the principal product. Yet there are groves of English walnuts almost rivaling in size the great orange-orchards, and orchards of prunes, nectarines, apricots, plums, pears, peaches, and apples that are little behind in size or productiveness. The deep green of the alfalfa may here and there contrast with the lighter green of the grape, but vineyards of enormous size, some a mile square, make all beside them look small.

CHAPTER II.

A NEARER VIEW.

WHOEVER comes to Southern California expecting to see a land all soft and smiling with deep-green pastures or waving grain, or full of nice, rich government land hungrily awaiting the plow, is certain to be disappointed: whether he enters the land by way of Fort Yuma and rides all day over a sea of barren sand; or by way of The Needles, and rides all day over a wavy waste of brown and gray, even more dreary than the sand; or through the San Joaquin Valley, with its long reaches of plain, bare and brown for want of water, and bounded by towering ranges of mountains that defy all attempts at settlement; or whether he enters it from the sea, and, after coasting a long line of tumbling hills, arrives in a vast expanse partly covered, perhaps, with cactus, cobble-stones, or weary-looking brush, or in some valley where alkali and sand struggle for the mastery.

Such but a few years ago were nearly all the approaches to Southern California. Many of them are yet but slightly improved, while others never can be improved. Taken *as a whole*, and compared with such States as Illinois or Kansas, Southern California is miserably poor. About one half of it is desert, not "desert only in name," as Mr. Nordhoff has said of some of it, but pitiless, uncompromising reality; while fully three fourths of the rest will forever defy the plow. Yet nearly all that is very barren or homely lies upon the outside, and further acquaintance soon reveals a large amount of land, the richness and adaptability of which to a wide range of productions are far beyond the conception of any one accustomed only to the Eastern or prairie States. Nevertheless, rocky and brushy hills and boulder-studded mountains are distinctive features even in the interior. And there are many who are glad that it is so, for it makes their home a wild, varied, and romantic park instead of a dull, monotonous vegetable-garden.

The soil is mainly composed of disintegrated granite—generally the soft red granite, though in places there is some disintegrated quartz mixed with it. Tracts of red or dark clay, known as *adobe*, are also common. This is the strongest of all the soils, enduring cropping with wheat longer than any other; although it is harder to work, and needs working in the right state of moisture. But the greater part of the land is of decomposed granite, and this is not only the best fruit land, but for "all-around" purposes, for richness, combined with ease of working, easy wetting, easy drying, and retention of moisture, cannot be excelled anywhere. Where very fine, it is generally red; and where quite coarse it is quite gray; with every shade of gradation between these two. The richness of California soil cannot be judged of by the eye; soil that at a careless glance appears to be almost pure sand, or fine flakes of mica, being surprisingly rich. The reason of this is that there is scarcely any decay of vegetation to mix with the other elements and give the soil the color and appearance of rich land in the East. Vegetation dries up and disappears by slow pulverization, so that in a handful of sand it can scarcely be noticed without a magnifying-glass. Keep that same sand wet and warm and any seed planted in it will show a growth that is surprising. Sand even from the river-beds is often rich. But outside of the river-beds and bottoms there is little that has any sandy character, though if dissolved in water the mica will quickly show itself in almost any soil but the *adobe*. There is scarcely a trace of the siliceous sand of the Atlantic States anywhere in the South.

The greater part of the soil that is at all arable is distributed into plains, valleys, and the adjacent slopes or table-lands. The slopes are generally gullied by water from the hills, and the table-lands—called *mesa*, from the Spanish word for table—are cut with large ravines as well as small gullies. The higher hills are generally untillable, and always will be, though abounding in attractions for the lover of nature.

A stranger cannot judge of even the roughest of these lower mountains by its appearance at a distance. Many even of those that seem mere ramparts of boulders rising tier upon tier for thousands of feet are delightful places in which to lounge away a day. The boulders are much farther apart than they appear from a distance, with plenty of rich soil between them, bearing flowers, ferns, and shrubs innumerable. In places the chaparral may be too dense for comfort, but there are plenty of places where the walking is easy and pleasant. Besides the little valleys, large enough for a farm or two, which they often contain, they have little parks from half an acre to three or four or a dozen acres in extent. These are generally connected by old trails made by the cattle in the old Spanish days, when the land was a stock-range. Long bunch-grass rising above the alfileria, or burr-clover, beneath, often covers half the ground in them, bleaching out at the top in summer, but starting out in soft green at the bottom with the first rains. Often these little parks are filled with scattered live-oaks that cover half the ground with shade, or stand around the edges filling up the openings in a barricade of boulders, or shading the head or entrance of the little pockets that run here or there into the chaparral like inlets in a lake. Sometimes the park is almost inclosed with a wall of bright-green chaparral higher than one's head, dense and almost impenetrable. And in the center of this grassy lake may stand a pile of granite boulders, overshaded by a spreading live-oak, while the ivy trails over the rocks, and far into the autumn the scarlet trumpets of the mimulus hang from the chinks as brightly as in spring. There in the morning or evening one may often see the doe browsing on the lilac along the edges, while the fawns are capering with each other beside her. And where they are rarely disturbed one may often see them during the middle of the day lying under the trees, like cattle, with heads and ears upraised, calmly ruminating. Or one may be startled by the crash of brush beneath some huge buck as he bounds away among the rocks, or the roaring wings of hundreds of quails as they scatter over the rocks or among the trees in clamorous confusion.

The lower and more barren-looking hills are not to be despised. They may have no little parks, and their ravines may have at the bottom only a deep cut or wash of cobble-stones and gravel; yet even there you may find the deer quite at home, the quail perhaps more numerous than before, the dove nesting in the ragged brush, the large hare camped for the day beneath the sage along its edge, and the gray and blue rabbit dodging about higher up; while thrushes, finches, orioles, wrens, and sparrows are at home along the brushy sides.

Even the dense masses of cactus lower down and nearer the coast are generally full of life. There the valley quail and the little gray hare are more at home than elsewhere, flying or running at full speed in or out of the thickest mass of sharpest thorns without injury. There the mocking-bird may build his nest and help the thrushes fill the air with song, while the chaparral-cock scuds along the ground outside the cactus. Even the great, bare plain, where there is not a bush or tree or rock for miles, may be alive with busy tenants. From beneath a tuft of flowers scarcely larger than himself, the hare often bounds forth and stretches himself out at a pace that only a good greyhound or horse can equal. The badger and coyote may be seen early or late in the day, and their holes are everywhere upon the plain. In every direction the large ground-squirrel is running, and the burrowing-owl standing by its hole twisting its neck to watch you. Here, too, are the sky-lark, the turtle-dove, the meadow-lark, and perhaps the plover, and often the robin or bluebird, far away from the hills or trees.

Above an elevation of four thousand feet, timber is quite abundant. Below that it is limited, though once much more abundant than it now is. Though the list of strange herbs, grasses, and shrubs is very large, the list of trees is quite small. You look in vain for the maple, hickory, bass-wood, gum-tree, persimmon, sassafras, birch, chestnut, and many other Eastern and Southern trees. Along the river-bottoms and low grounds the sycamore is found as clean-limbed, tall, and stately as elsewhere. The cottonwood, too, is common, though generally dwarfed, scraggy, and full of dead limbs, and by no means the handsome tree that shades the bottom-lands of the Mississippi and its tributaries. A willow still more scraggy, and having many limbs destroyed with mistletoe, is often found in the same places. The elder rises above the dignity of a shrub or under-shrub, but can hardly be called a respectable tree. The ash is very rare in the South. There is a native walnut, a small tree bearing a small and very sweet nut like a butternut; but this is also very rare now in the South. Two varieties of oak are common, and the alder forms here a fine tree along the higher water-courses. These, with Torrey's

Pine, form about all below the high mountains that can be called timber.

Torrey's Pine is limited to a few square miles upon the table-lands along the coast of San Diego County, some twenty miles above the Bay of San Diego—the only place in the world where it has yet been found. It is a dwarf-pine, seldom over thirty-five feet high, with bright green needles, four or five inches long, clustered in thin bunches. Its cones are very large, with spurred lobes, at the base of which is a nut about three fourths of an inch long and one third in diameter. Unlike all the other pine-nuts of California, this has a shell as hard as a filbert, with a large, full kernel as sweet as that of a pecan-nut or chestnut and entirely free from the slightest flavor of pine. These trees seem to thrive best in the dry, rocky cliffs about three or four hundred feet above the sea. A few, protected by the inaccessible nature of their home, still look out upon the broad ocean, and these are still further protected from the vandal's ax by a law passed last year by the supervisors of the county imposing a fine of one hundred dollars for cutting one for any purpose. The traveler on the California Southern Railroad may still see near Del Mar a few small, solitary survivors of what is probably the rarest tree our earth has ever produced.

The live-oaks are now about the only trees in the lowlands that are at all characteristic. The white live-oak has a light, gray, shaggy bark, and is thin of limb as well as of leaf. The leaf is small, oblong, smooth, and of a light olive-green. Its acorns are very short and thick, and set in a very thick cup, and are rarely abundant. While not a very shapely or handsome tree, it lends a pretty effect to mountain parks and rolling highlands, which seen from a distance often look like old apple-orchards, and near by resemble the "oak openings" of Wisconsin. But the principal oak of the lowlands, though found also in the mountains, is the black live-oak, a tree that in its full development would be an ornament in any country and on any landscape. In the mature tree the bark is of a dark iron-gray color, and though rugged is not shaggy. Very dense of limb and still more dense of leaf, it often covers the ground with a solid shade. Its broad, outspreading arms, sometimes draped with long, gray moss, often cover a hundred feet in diameter; and its dark, glossy, spoon-shaped leaves never change color for heat or drought or frost. Though it thrives best on lands where the subterranean water is not too deep, it still lives on the hot, dry hill-side; and even on the rocky, arid point of some ridge where scarcely anything known in the Eastern States could live for a day, it often welcomes the climber spent with heat and toil. There are few nicer places to pass the heat of the day than the carpet of leaves beneath a veteran live-oak with the sea-breeze playing over one. The live-oak once covered many of the valleys with solid green, through which one could ride for miles in almost perpetual shade. But the development-fiend arrived. The wasteful vandal, instead of trimming them for fire-wood, cut and slashed the fairest, and the monarchs whose rings show that they were old settlers when Columbus was a schoolboy, have had to make way for the potato-patch of some petty "granger," who is too lazy to cultivate it after it is planted.

But what the land lacks in trees it nearly makes up in shrubs. And about all of these are evergreen and nearly all peculiar to California, bearing little resemblance to anything East even when of the same family. Three varieties of sumac, reaching often as high as fifteen or eighteen feet, and spreading as many wide, stand thick upon a thousand hill-sides, and fill with green the driest and stoniest ravines. Two kinds of live-oak bushes, two varieties of lilac, one with white, the other with lavender flowers, the *madroña*, the coffee-berry, the manzanita, the wild mahogany, the choke-cherry, all of brightest green, with the *adenostoma* and *baccharis*, two dark-green bushes, looking like red and white cedar, form what is called the chaparral. Most of these often reach a height of fifteen feet, and form a jungle of stiff, ragged, prickly stuff, unyielding and unbreakable, through which one can travel best on hands and knees. But often it is not over four or five feet high, with plenty of openings through which one can easily walk. Hill and dale for miles are sometimes covered with the high dense growth, though much of it has of late years been burned off. The velvet hue that this chaparral gives the hills changes with the sunlight through a dozen shades from pea-green on the sunlit slopes at mid-day to the darkest blue on the shady ones at evening, and is a most restful change for the eye from the brown shimmering plains or bare red hills. Three varieties of dwarf-willow often grow along the water-courses, and, with the elder, wild grape, rose, and sweet-brier, all well huddled together, the chinks filled with nettles and the whole tied together with long, trailing blackberry vines, often form an interesting subject of contemplation for one who wants to get on the other side.

It is strange that this land, where all the fruits of the temperate zone, either in the lowlands or mountains, reach their highest perfection, while many of those of the tropics flourish beside them, should have scarcely any wild fruit of its own. Yet there is little worthy of mention. The wild grape is worse, if possible, than the Eastern frost grape. There are no nuts except the pine nuts, the rare little walnut already mentioned, the acorns, and the chincapin in the highest mountains. A few strawberries are found in high mountains; but the strawberry, blackberry, raspberry, gooseberry, and currant are generally unfertile. The wild plum is all skin and pit, with little or no plum flavor. The gooseberry and currant, when they bear at all, are dry and insipid. The manzanita, coffee-berry, and choke-cherry are fit only for bears to eat, and it is doubtful if they eat them from preference. The only good native wild fruit is the *tuna*, or red fruit of the prickly-pear, the large yellow or Castilian *tuna* being an importation by the Mission fathers. This fruit is about the size of a fig, is very juicy, and closely resembles in taste a mixture of strawberry and raspberry. It is, however, rarely eaten by the Americans, partly because of its fine spines, which, however, are easily removed by peeling on a split stick, but mainly because it is abundant and costs nothing.

CHAPTER III.

THE SEASONS.

THERE are here but two seasons, neither of which can be exactly defined, but which are most nearly described as spring and summer. Spring is generally called winter; but, with the exception of a few frosty nights, which can only be when the sky is clear and the air quite dry, in which case the succeeding day is sure to be warm and bright, there is nothing on the greater part of the lowlands, and especially along the coast, that can be correctly called winter. It is also called by many the "rainy season." But this is only by way of distinction from the long, dry summer—the season when it may rain enough to make things grow, as distinguished from the season when it is quite certain not to rain enough to be worthy of mention. It is not a "rainy season" as that term would be understood in Illinois or New England. From the first to the last rain, a period lasting in seasons unusually wet for nearly six months, the number of rainy days is never equal to that of a wet spring and summer in any of the Eastern States, and too often does not equal the number of the rainy days in the driest six months ever seen there. The floods which happen occasionally come from heavy precipitation before there is grass enough on the hills to hold back the water, and not from a long continuance of rainy days.

Sometimes this season commences with a fair rain in November, after a light shower or two in October, but some of the very best seasons begin about the time that all begin to lose hope. November adds its full tribute to the stream of sunshine that for months has poured along the land; and, perhaps, December closes the long file of cloudless days with banners of blue and gold. The plains and slopes lie bare and brown; the low hills that break away from them are yellow with dead foxtail or wild-oats, gray with mustard-stalks, or ashy green with chemisal or sage. Even the chapparal, that robes the higher hills in living green, has a tired air, and the long timber-line that marks the cañon winding up the mountain-slopes is decidedly paler. The sea-breeze has fallen off to a faint breath of air; the land lies silent and dreamy with golden haze; the air grows drier, the sun hotter, and the shade cooler; the smoke of brush-fires hangs at times along the sky; the water has risen in the springs and sloughs as if to meet the coming rain, but it never looked less like rain than it now does.

Suddenly a new wind arises from the vast watery plains upon the southwest; long, fleecy streams of cloud reach out along the sky; the distant mountain-tops seem swimming in a film of haze, and the great California weather-prophet—a creature upon whom the storms of adverse experience have beaten for years without making even a weather-crack in the smooth cheek of his conceit—lavishes his wisdom as confidently as if he had never made a false prediction. After a large amount of fuss, and enough preliminary skirmishing over the sky for a dozen storms in any Eastern State, the clouds at last get ready, and a soft pattering is heard upon the roof—the sweetest music that ever cheers a Californian ear, and one which the author of "The Rain upon the Roof" should have heard before writing his poem.

When the sun again appears, it is with a softer, milder beam than before. The land looks bright and refreshed, like a tired and dirty boy who has had a good bath and a nap, and already the lately bare plains and hillsides show a greenish tinge. Fine little leaves of various kinds are springing from the ground, but nearly all are lost in a general profusion of dark green ones, of such shape and delicacy of texture that a careless eye might readily take them for ferns. This is the alfileria, the prevailing flower of the land. The rain may continue at intervals. Daily the land grows greener, while the shades of green, varied by the play of sunlight on the slopes and rolling hills, increase in number and intensity. Here the color is soft, and there bright; yonder it rolls in wavy alternations, and yonder it reaches in an unbroken shade where the plain sweeps broad and free. For many weeks green is the only color, though cold nights may, perhaps, tinge it with a rusty red. About the first of February a little star-like flower of bluish pink begins to shine along the ground. This is the bloom of the alfileria, and swiftly it spreads from the southern slopes, where it begins, and runs from meadow to hill-top. Soon after a cream-colored bell-flower begins to nod from a tall, slender stalk; another of sky-blue soon opens beside it; beneath these a little five-petaled flower of deep pink tries to outshine the blossoms of the alfileria; and above them soon stands the radiant shooting-star, with reflexed petals of white, yellow, and pink shining behind its purplish ovaries. On every side violets, here of the purest golden hue, and of over-powering fragrance, appear in numbers beyond all conception. And soon six or seven varieties of clover, all with fine delicate leaves, unfold flowers of yellow, red, and pink. Delicate little crucifers of white and yellow shine modestly below all these; little cream-colored flowers on slender scapes look skyward on every side; while others of purer white with every variety of petal crowd up among them. Standing now upon some hillside that commands miles of landscape, one is dazzled with a blaze of color, from acres and acres of pink, great fields of violets, vast reaches of blue, endless sweeps of white.

Upon this—merely the warp of the carpet about to cover the land—the sun fast weaves a woof of splendor. Along the southern slopes of the lower hills soon beams the orange light of the poppy, which swiftly kindles the adjacent slopes, then flames along the meadow, and blazes upon the northern hillsides. Spires of green, mounting on every side, soon open upon the top into lilies of deep lavender, and the scarlet bracts of the painted-cup glow side by side with the crimson of the cardinal-flower. And soon comes the iris, with its broad golden eye, fringed with rays of lavender blue, and five varieties of phacelia overwhelm some places with waves of purple, blue, indigo, and whitish pink. The evening primrose covers the lower slopes with long sheets of brightest yellow, and from the hills above, the rock-rose adds its golden bloom to that of the sorrel and the wild alfalfa, until the hills almost outshine the bright light from the slopes and plains. And through all this nods a tulip of most delicate lavender; vetches, lupins, and all the members of the wild-pea family are pushing and winding their way everywhere in every shade of crimson, purple, and white; along the ground the crow-foot weaves a mantle of white, through which, amid a thousand comrades, the orthocarpus rears its tufted head of pink. Among all these are mixed a thousand other flowers, plenty enough as plenty would be accounted in other countries, but here mere pin-points on a great map of colors.

As the stranger gazes upon this carpet that now covers hill and dale, undulates over the table-lands, and robes even the mountain with a brilliancy and breadth of color that strikes the eye from miles away, he exhausts his vocabulary of superlatives, and goes away imagining he has seen it all. Yet he has seen only the background of an embroidery more varied, more curious and splendid, than the carpet upon which it is wrought. Asters bright with center of gold and lavender rays soon shine high above the iris, and a new and larger tulip of deepest yellow nods where its lavender cousin is drooping its lately proud head. New bell-flowers of white and blue and indigo rise above the first, which served merely as ushers to the display, and whole acres ablaze with the orange of the poppy are fast turning with the indigo of the larkspur. Where the ground was lately aglow with the marigold and the four-o'clock the tall penstemon now reaches out a hundred arms full-hung with trumpets of purple and pink. Here the silene rears high its head with fringed corolla of scarlet; and there the wild gooseberry dazzles the eye with a perfect shower of tubular flowers of the same bright color. The mimulus alone is almost enough to color the hills. Half a dozen varieties, some with long, narrow, trumpet-shaped flowers, others with broad flaring mouths; some of them tall herbs, and others large shrubs, with varying shades of dark red, light red, orange, cream-color, and yellow, spangle hillside, rock-pile, and ravine. Among them the morning-glory twines with flowers of purest white, new lupins climb over the old ones, and the trailing vetch festoons rock and shrub and tree with long garlands of crimson, purple, and pink. Over the scarlet of the gooseberry or the gold of the high-bush mimulus along the hills, the honeysuckle hangs its tubes of richest cream-color, and the wild cucumber pours a shower of white over the green leaves of the sumac or sage. Snap-dragons of blue and white, dandelions that you must look at three or four times to be certain what they are, thistles that are soft and tender with flowers too pretty for the thistle family, orchids that you may try in vain to classify, and sages and mints of which you can barely recognize the genera, with cruciferæ, compositæ, and what-not, add to the glare and confusion.

Meanwhile, the chapparal, which during the long dry season has robed the hills in somber green, begins to brighten with new life; new leaves adorn the ragged red arms of the manzanita, and among them blow thousands of little urn-shaped flowers of rose-color and white. The bright green of one lilac is almost lost in a luxuriance of sky-blue blossoms, and the white lilac looks at a distance as if drifted over with snow. The cercocarpus almost rivals the lilac in its display of white and blue, and the dark, forbidding adenostoma now showers forth dense panicles of little white flowers. Here, too, a new mimulus pours floods of yellow light, and high above them all the yucca rears its great plume of purple and white.

Thus marches on for weeks the floral procession, new turns bringing new banners into view, or casting on old ones a brighter light, but ever showing a riotous profusion of splendor until member after member drops gradually out of the ranks, and only a band of stragglers is left marching away into the summer. But myriads of ferns, twenty-one varieties of which are quite common, and of a fineness and delicacy rarely seen elsewhere, still stand green in the shade of the rocks and trees along the hills, and many a flower lingers in the timber or cañons long after its friends on the open hills or plains have faded away.

In the cañons and timber are also many flowers that are not found in the open ground, and as late as the middle of September, only twenty miles from the sea, and at an elevation of but fifteen hundred feet, I have gathered bouquets that would attract immediate attention anywhere. The whole land abounds with flowers both curious and lovely; but those only have been mentioned which force themselves upon one's attention. Where the sheep have not ruined all beauty, and the rains have been sufficient, they take as full possession of the land as the daisy and wild carrot do of some Eastern meadows. There are thousands of others, which it would be a hopeless task to enumerate, which are even more numerous than most of the favorite wild flowers are in the East, yet they are not abundant enough to give character to the country. For instance, there is a great larkspur, six feet high, with a score of branching arms, all studded with spurred flowers of such brilliant red that it looks like a fountain of strontium-fire: but you will not see it every time you turn around. A tall lily grows in the same way, with a hundred golden flowers shining on its many arms, but it must be sought in certain places. So the tiger-lily and the columbine must be sought in the mountains, the rose and sweetbrier on low ground, the nightshades and the helianthus in the timbered cañons and gulches.

Delicacy and brilliancy characterize nearly all the California flowers, and nearly all are so strange, so different from the other members of their families, that they would be an ornament to any greenhouse.

The alfileria, for instance, is the richest and strongest fodder in the world. It is the mainstay of the stock-grower, and when raked up after drying makes excellent hay; yet it is a geranium, delicate and pretty, when not too rank.

But suddenly the full blaze of color is gone, and the summer is at hand. Brown tints begin to creep over the plains; the wild oats no longer ripple in silvery waves beneath the sun and wind; and the foxtail, that shone so brightly green along the hill-side, takes on a golden hue. The light-lavender tint of the chorizanthe now spreads along the hills where the poppy so lately flamed, and over the dead morning-glory the dodder weaves its orange floss. A vast army of cruciferæ and compositæ soon overruns the land with bright yellow, and numerous varieties of mint tinge it with blue or purple; but the greater portion of the annual vegetation is dead or dying. The distant peaks of granite now begin to glow at evening with a soft purple hue, the light poured into the deep ravines towards sundown floods them with a crimson mist; on the shady hill-sides the chaparral looks bluer, and on the sunny hill-sides is a brighter green than before.

The alfileria and the clovers that lately robed the plains now lie along the ground in a mat of brown hay mingled with nutritious seeds, the combination forming an unequaled fodder; and even the tallest annuals, like the mustard and the nettle, succumb to the influence of the season. Yet long after the rains have ceased and the sun rides high in the zenith the land is by no means as dreary and brown as one might suppose. The heteromeles stands brightly green along the hills the long long year, now drifted over with white blossoms, and in winter gay with clusters of red berries like the mountain-ash. The sumac, too, is green through the longest drought, and in June is all aglow with new leaves of reddish tinge, overwhelmed with white panicles also a little tinged with red. The wild buckwheat lights up whole hill-sides with a bloom similar in color to that of the sumac, and the white sage lifts its tall spires of grayish green, tasseled with a thousand flowers of city-milk blue. The great thorny arms of the cholla cactus are now adorned with flowers, the broad lobes of the prickly-pear are studded with large golden ones, while the smaller and smoother varieties rival the others with a profusion of large rose-like flowers of the deepest pink. Among the piles of granite the mimulus still stands with its trumpet-flowers of red or creamy pink; the ivy twines itself among them, and the live-oak spreads its broad green arms above them. The salt-grass, the mallow and the wire-grass keep the low meadows as green as ever, while near them the elder stands with its green leaves almost lost in snowy bloom. The wild rose and sweet-brier form dense thickets of solid green, and above them the grape-vine festoons the trees or overpowers them with its long shady arms. The sycamore, willow, cottonwood, and other trees along the dry bed of the river are now full of lusty life. Even the dry sandy wastes are relieved by the bright pink of the abronia, the glistering leaves and whitish blossoms of the ice-plant, or the tall form of the *yerba mansa;* while from the cracks of the driest ledges of rock the cotyledon sends up its tall curving spike of chalky hue, full-hung on the under side with a fringe of long carmine trumpets.

There is nothing about autumn here that is at all saddening or sentimental. It is only the long-lingering afternoon of a long-lingering summer day. There are dreamy hazes and filmy atmospheres enough, but they are not at all peculiar to autumn. The spider occasionally weaves his thin shroud and the gossamer rides the air, dead leaves rustle to the rabbit's tread, the crow caws from the tree-top, the jay jangles and the quail pipes; but they have been doing it all summer, and, in truth, much of it in spring. It is a bad country for "the singer," although one occasionally ventures "a poem" in which no one without looking at the title could tell which season it described.

September brings no change along the rolling hills, except a little ashen tint upon the ramiria, and the chorizanthe, a paler brown upon the dodder that clambers over the chemisal or buckwheat, a grayer shade upon the white sage and the dead phacelias, a grayer brown upon the plains and table-lands. Smiling from unclouded skies, the sun passes the central line, the nights grow a trifle cooler, the ocean breeze a trifle fresher; but instead of rain there is merely a drier air. The linnet and the mocking-bird are heard no more; the cooing of the dove sounds more seldom from the grove; the brooding call of the quail has ceased along the hills and dales, and the young coveys gather into large bands. The mimulus that has lingered long among the shady chinks of the granite piles begins to close its crimson bugles; the ivy that twines the oak above it shows a strong tinge of scarlet; the sand-verbena and other summer flowers begin to fade; the wild gourd ripens on the low grounds, and the meadows along the edge turn a trifle sere. But in nearly all else it is summer.

October comes, but the summer sun still rules the land. The low hills that are free from chaparral grow paler where the dead mustard, wild oats, clover, alfileria, and foxtail have so long lain bleaching. The *adenostoma* and *cercocarpus*, and other chaparral bushes, look perhaps a trifle weary; the green of the sumac and fusica is a little less bright than in July; the elder and the wild buckweat look unmistakably worse for wear, and even the ever-vigorous cactus seems to think it has done full duty. But all these changes are very slight, and would scarcely be noticed by the casual observer. For the whole host of bushes and trees that cover the hills, the living grass that covers the moist lands, and the dead grass that carpets the plains, all wear the same general appearance as in July; while some plants, such as the golden-rod in the meadows, are just coming into bloom, and on the dry lands the *baccharis* is rearing its snowy plumes. Many days will now be cooler than most of the days of summer, hoar-frost will be found along the mountain valleys, some skies will be a little overcast, perhaps rain enough may fall to start the weather-prophets; but the whole will be soft and bright like the sunset hour of a lovely summer day.

November: yet no leaden skies; no sodden leaves on soaking ground; no snow-flakes riding on howling blasts; no sloughs of mud in the roads to-day and frozen hummocks to-morrow; no robin chirping out a dismal farewell high above one's head; no fish-ducks whistling down the icy margin of the pond where of late the mallard quacked; no sparrows sitting around with ruffled feathers. Only a little colder nights and shorter days; only a little frost along the bottoms of the valleys; only a stiller, drier air, often clearer than in summer, except where brush-fires make it thick or hazy. The evaporation being checked by the longer and cooler nights, the water rises in the springs and runs in places where two months ago was nothing but dry sand. The wild duck appears along the sloughs, the *honk* of the goose is heard again in its winter haunts, the bluebird and robin come down from the high mountains, and the turtle-dove almost disappears. The sycamore and cottonwood begin to look sere, the grape-vine leaves are yellowing, and the willows are fast fading. But in nearly all else it is still summer.

December comes at last, but few would suspect it. The nights are still colder, and the hoar-frost creeps higher up along the slopes of the valleys, and thin ice may form at daylight on some of the lowest grounds. Yet the days are nearly like those of summer, though the sea-breeze is almost gone, and the wind comes often from the north and east. The berries of the manzanita are now black and shining; the heteromeles is aglow with scarlet clusters; the golden-rod that lately blazed along the meadows is grown gray and fuzzy; the acorns patter on the roof beneath the spreading live-oak; the plains look a little grayer, the tablelands a little browner. But the grand old oaks, the sumacs, the lilac, fusica, manzanita, *madroña*,—all the chaparral bushes, in fact,—are very nearly as green as ever. We might as well call the whole of it summer, for it is only summer a little worn out.

"How fearfully monotonous all that must be!" remarks one who has never passed through it. "I like something positive, some distinctive features about the seasons. It is so pleasant to sit by the fire and hear the snow-storm howl without; sleigh-riding is so delightful, skating is such a luxury! And then the winter air is so bracing and sends the pulse bounding, and makes the cheek glow with health!"

To which it might be replied: There are some things that are not always objectionable even when monotonous; such things as health and wealth, for instance. It is possible that such things appear monotonous to those who do not possess them; and also possible that after a thorough trial of them they might change their opinion of them. One who has never spent an autumn outside of an umbrella or an overcoat, and all whose winters have been largely spent sitting by the fire and listening to the raging of the storm without, is hardly a competent judge compared with one who has given both sides of the case a fair trial, as have most of the residents of California. At all events, there is always one resource for any one whom such monotony troubles,—to return to the East and try once more those good old days by the fire. Few ever stay East long enough to test them again thoroughly, and from those that do "monotony" is the last complaint ever heard after their return to California.

CHAPTER IV.

PECULIARITIES OF THE SEASONS.

No two winters in ten years are alike; no two summers are different. One summer may have a slight sprinkle or two of rain, or a few days of intense heat, more than another, but otherwise all are alike—the same regular procession of bright days, month after month. In winter the fair and clear days always predominate, even in years of excessive rainfall. But beyond this the season upon which all the farmer's hopes are centered is all uncertainty. It may begin with a rain that gives him brilliant prospects, and end with a train of bright days that bids farewell to all his hopes; or it may do just the reverse and overwhelm him with good fortune, after keeping him for weeks upon the verge of distraction; or it may take a middle course and make him jubilant in December, half insane in January and February, and happy again in April.

The barometer is no wiser than the weather-prophet. It will indicate the coming and the ending of a storm. And so can the weather-prophet—occasionally. But upon the great question, *Will it rain?*—that is, rain enough to do any good—neither barometer nor weather-prophet can give any light. For though they call winter here "the rainy reason," it by no means follows that there will be rain more than just "enough to swear by."

The private records kept at Sacramento and San Francisco for thirty-six years, the concurring testimony of all old residents in the South, the private records maintained for over twenty years, and the government records kept at San Diego for eight years fully establish, however, three facts:

First, that in three years out of ten the rainfall in the lowlands will be wholly insufficient to raise profitable annual crops of any kind, or even to make fair crops on those trees and vines that generally do well without irrigation. Soils specially favored with underground water may give profitable yields if well cultivated, but these are the exception. A "drought," "dry year," "bad year," or "dry winter," as it is variously called, is a very serious thing; and though its weather may please the most exacting invalid, he will never want to see another if he has a particle of sympathy for a sorrowing land.

Second, that in two more years out of ten the rainfall will be barely sufficient; though on land well plowed the year before and thoroughly cultivated profitable crops may be raised, even of corn and other things that grow only in summer, while grain on all land well plowed the previous year will do very well. But land treated in the old style of farming will do little better in the medium years than in the very dry ones.

Third, that in about two more out of the ten years the rainfall will be about right for the very best results; in two more it will be a little more than is actually necessary, but little if any in excess; and in the remaining one it may be considerably in excess, but no more than is necessary to keep up the height of the subterranean water.

The losses occasioned in the past by the dry and half-dry winters have been severe. It is now certain that with care and proper management the losses in ten years will not exceed, if indeed they equal, those caused in ten years by excessive summer rains and summer droughts in Illinois or Ohio. The farmer who plows but two inches deep, and then for a paltry sum rents his stubbles to a sheep-man to be tramped as hard as a brick by bands of sheep; who burns tons of straw that, ripened without rain in dry air, is nearly as good as hay, merely to get it out of the way of his plow; who plants potatoes and never again touches them, fares like the man who overstocks his range; and the man who plants corn so that it cannot be plowed either way, fares badly. But he is fast passing away, and is, in fact, almost gone; though the tendency still is to forget that there ever was a dry winter whenever two good ones come in succession.

There is a radical difference between the wet and dry winters, that cannot be explained upon any theory of timber or chaparral destruction. In a wet winter it will rain—rain quickly and thoroughly about every time the clouds gather. In a dry year they may gather just as often, hang as low, and look as wet, with the wind and all other signs doing full duty; yet days of fuss and threats give nothing but an aggravating patter for a few moments on the roof, followed by weeks of sunshine.

Not only is the rainfall thus irregular, but it is very streaked in all years. The belts of rainfall vary almost as much as those of temperature. This variance is generally due to difference in elevation. But not always; for some very dry belts have an elevation above some that are always wet enough. But in general the coast and the country back of it for twelve or fifteen miles, or up to an elevation of one thousand feet, has the lowest rainfall. Most of the mountains above three thousand feet always have enough, and in wet winters more than they need. The intermediate belt is generally about right, though possibly a little short in the very driest winters. But within these limits are differences that cannot be explained, though quite regular. Without irrigation it is useless to farm on the very dry belts; for though they may do as well as any in wet winters, the percentage of dry and half-dry ones is too heavy to permit success in the long-run.

In wet winters the precipitation is generally heavier for the same length of storm than in the Eastern States, and is usually in the night, the days being generally half-clear, often with occasional showers and often without. But in such extraordinary seasons as was that of 1883–84 there may be a week or more of almost solid rain at a time.

The mid-day temperature of the winter days in the lowlands is always above freezing, and nearly always so even in the higher mountains. When it reaches the freezing-point at all, or falls below it, it is for only a short time in the early morning, generally between daylight and sunrise, when the temperature often falls four or five degrees in that short time,—depending upon the dryness of the air. The temperature at night is, however, influenced so much by a little change in elevation that no one can form any idea of it from any tables of minimum temperatures. Valleys that in midwinter are like summer at mid-day are much colder at night than slopes and table-lands a hundred feet or more above them that are not as warm during the day. Camping in such valleys on hunting-trips in midwinter, I have often risen with the first gray of dawn and found the grass merely wet with dew. By the time I had finished breakfast, the dew all around me, and even on my bed, would be changed into white frost, with perhaps a little ice on shallow water in a pan or trough. Yet, cold as it was, I would have to start out in shirt-sleeves, because I knew that by the time I had ascended the adjoining slopes fifty feet there would be no frost, and in fifty feet more it would be warm enough in the rising sun without a coat, and during the day too warm with one.

Herein lie two great differences between this land and Florida. In Florida a cold spell is the edge of a cold wave from the north; and if it freezes at all it may freeze all day, as it did during the last cold spell in 1886, and is always liable on such occasions to freeze all night. A freeze here is entirely local, happening generally, when at all, before good rains have come, after which white frosts may be caused by snow on the high mountains, but rarely much if any ice. The lowest temperatures are caused only by the extreme dryness of the air, which during the long nights of December and early January causes a more rapid and longer-lasting radiation of heat from the earth, the most rapid being after daylight. A fall below fifty degrees is possible only on a clear night, and below thirty-five degrees only on one very dry as well as clear. After sunrise these conditions have an effect the very reverse. The sunlight falling through the clear dry air has a heating effect entirely unknown in damp air, and a warm day is certain to follow, and follow quickly, the coldest night. So great is this contrast that in some valleys one can sit down out of doors without a coat at nine o'clock, though ice quarter of an inch thick formed in the horse-trough but three hours before. Another great difference is that there are certain elevations embracing immense tracts of land where even hoar-frost is practically unknown, though it may freeze but half a mile away. Where irrigable, as most of them are in some way or another, these tracts form the choicest parts of the country, being warmer in winter and cooler in summer than the valleys. Such tracts as the great table-land around National City will in time be the finest parts of California, and produce more fine oranges than the whole land now does.

This short duration of the freezing temperature explains a thing at which many wonder, but which is in reality very simple. Corn, potatoes, tomatoes, beans, and all things that in the East are killed by a "black frost"—a freezing temperature often without dew—will here often stand a temperature that makes even quarter of an inch of ice. All vitality, whether animal or vegetable, must have some power of resisting cold, even if there is no actual generation of heat. As a man may endure for an hour a degree of cold that he could not endure for a day, so a plant may bear for ten or fifteen or twenty minutes a temperature that in an hour or two would kill it. Whether it is this that has always saved the orange-trees here or not, it is certain that they have never been injured as those of Florida have been at different times. In a few of the coldest localities trees but a year old were killed in the frosty nights of December, 1879, but old ones were uninjured, and in most places none were damaged. Orange-trees at the mission of San Gabriel seventy-five or eighty years old, and the old "Wilson orchard" near by, forty-five years old, show no sign whatever of having ever been injured. And according to the old Indian and Mexican residents, who have no interest in falsifying about the climate, they never have been injured. Yet these are on low ground and almost under the shadow of mighty mountains often heavily clad in snow.

The mid-day temperature of the clear days in winter is generally from sixty to seventy degrees on the coast, and from sixty-five to eighty degrees in the interior. The mid-day temperature of the rainy days is about the same in both—from fifty-five to sixty-five degrees, generally about sixty. The lowest mid-day temperature recorded at the U. S. Signal Station at San Diego during eight years is fifty-one degrees. This occurred but once. In those eight years there were but twenty-one days when the mid-day temperature was not above fifty-five degrees. In that time there have been but six days when the mercury fell below thirty-six degrees at any time in the night, and but two when it fell to thirty-two degrees—the lowest point ever reached there. On one of the two last-named days it went to fifty-one degrees at noon, and on the other to fifty-six degrees. This was in the great "cold snap" of December, 1879. In the interior it would fall a little lower at daylight, and rise several degrees higher at noon.

A comfortable summer in a latitude so low and with such warm winters is the last thing that strangers expect, yet it is the greatest surprise to those that venture to remain. But when one reflects for a moment it can easily be seen how a land so dry must be quite free from malaria; how a dry air must make cool nights, and be less oppressive by day—keeping the skin dry; how a breeze from the sea must always follow the rising of the sun; and how that breeze reaching the trade-wind cooled by the edge of the current from Behring's Straits must, on the coast at least, be cool.

By the sea the difference between the mid-day temperatures of winter and summer is hardly above ten degrees, and in the interior little if any above fifteen. At San Diego there have been but forty-one days in eight years when the mercury passed eighty-five degrees, but twenty-two when it passed ninety degrees, but four when it passed ninety-five degrees, and but one when it passed one hundred degrees—one hundred and one being the highest.

In the interior any given day will be warmer at mid-day than on the coast, though cooler at night. Yet the number of days in summer even there when the mercury does not pass seventy-five degrees would surprise any one. At Oakwood U. S. Signal Station, fourteen miles from the coast and only seven hundred and seventy feet above the sea, the thermometer in five years reached one hundred degrees but twenty-three times, and ninety-five degrees but twenty-nine times (exclusive of the other twenty-three at one hundred degrees). This fairly represents the heat of the interior, there being of course places where it is greater, and others where it is less. The temperatures much over one hundred degrees come only at intervals of several years, with a dry desert breeze, and last but three or four days. Though so intensely dry and breezy that sunstroke is unknown, they are still quite infernal—to be plain about it. But the owner of a thick adobe, stone, or brick house who leaves it open all night and shuts it up about ten or eleven o'clock in the morning can sit within and smile at the worst of these siroccos, for the nights are still very cool and the heat does not last more than eight hours. At such times it may reach (in the interior only) the pleasant little figure of one hundred and fifteen degrees, and on extra occasions one hundred and twenty degrees, at noon; falling generally to eighty degrees by sundown, and seventy degrees at bedtime. One who has noticed the difference between dry hot weather and hot damp weather in the East can understand how such days, with a breeze of ten miles an hour and but five or six per cent of moisture in the air, with cool nights, may, though very uncomfortable, have nothing oppressive or prostrating about them. Such is the case: and harvest work, teaming, and all else goes on the same as usual, the only difference being in the amount of profanity —which, if ever excusable, certainly is at such times.

The difference between extremely hot weather here and in the East may be summed up as follows: There is nothing especially amusing about it in either place. Here, the temperature is higher, yet it produces no sunstroke or hydrophobia; and no bowel-complaints either among children or adults. There, one who has nothing to do but seek comfort often fails to find it: a heavy house once heated through is worse than out of doors; even at the sea-coast it may be as sweltering as it is inland. Here one may always find comfort at the coast; and inland too, if under a tree, or on the shady side of a house where there is a breeze, or inside of heavy houses of adobe or stone which have been kept open at night.

The deserts that lie upon the Arizona and Sonora rain-belt are rainy in summer and dry in winter; but the amount of rain they receive is slight, and limited to a few thunder-showers in July and August. The edge of one of these showers occasionally reaches over the high mountain-barriers on the west, and perhaps gives even the coast a light sprinkle, and at long intervals a heavy one. With this exception the summers are absolutely rainless for five or six months, and often for seven or eight. Though thunder may possibly be heard, and lightning seen, in the distant mountains at such times, they come no farther except at intervals of many years, when one may for an hour or two be reminded of the old Eastern home. Occasionally a little faint lightning may be seen in winter; but with this exception lightning is unknown, and a lightning-rod cannot be found in the land.

Residents here are in the habit of telling strangers when they express surprise at a fog that it is "very exceptional." "Exceptional" is a very unfortunate word to use. It at once excites suspicion in one who has traveled for climate, for he hears it all over the world where climate is an article of merchandise. There is nothing very exceptional about a fog on or near any sea-coast, or near any large body of water, in the temperate zone, and it is strange how anybody can think there is. Fogs are indeed not common here; nevertheless we have them. They grow less and less all the way from San Francisco down, especially after passing Point Conception. Yet they are still found occasionally far down into Lower California. They are, however, entirely different from anything in the East. A land fog and an ocean fog lasting all day inland are both unknown. The fog is here a bank or cloud arising from the sea in peculiar conditions of the respective temperatures of the air and water. The bank is about one thousand feet thick, lies out on the water all day and moves in at evening—when it comes at all, for often it does not come in. Sometimes it comes before sundown, generally a little after. It rolls out again soon after sunrise. It has the strange feature of moving in against a breeze—the land-breeze—and moving out against another—the sea-breeze. Occasionally it appears to form inland around the high hill-tops at evening; but the vapor is from the fog-bank on the sea, and rolls out in the morning as usual. The elevation of the lower edge of this bank varies from sea-level to twelve hundred feet, though sometimes it is much higher. When it is high the lower levels are dry all night, and it appears like a dry cloudy night, but the hills that reach into it will have their chaparral wet with it. When it is low it makes things damp along the coast, yet at fifteen hundred feet of elevation the sun rises like a ball of fire, and the dweller on the middle levels looks down upon a broad sea of snowy fleece with a few dark hill-tops floating like islands upon it. And soon he sees it break beneath the sun and roll seaward in a thousand tumbling lines of cloud; for a foggy night is quite sure to be followed by a bright day inland, though immediately on the coast it may sometimes linger until near noon. Fogs are most numerous in spring, and when accompanied by cool and often by cloudy weather for a time, they aid the filling of the wheat into that grain of marvelous fullness that characterizes the best wheat of this coast. And in some years they are the salvation of the crops. Sometimes many months pass without any, and then they may come every night for a fortnight or more. On the whole, they do much good and no harm except in the fancy of the whimsical invalid.

Perhaps the most remarkable feature of the whole year is the entire absence of all dangerous winds, and the almost entire absence even of unpleasant ones. One would think that the combined efforts of a great ocean, great mountains, plains and valleys, all varying widely in temperature, could at some time of the year raise a respectable gale. But it is not so. With the exception of a few little eddies moving but four or five miles an hour over the larger plains in summer, there is absolutely nothing in the way of cyclone, whirlwind, or tornado; and hurricanes and heavy gales are equally wanting. The "norther" is here a dry wind from the desert, generally warm or hot, never cold, though sometimes cool, always excessively dry, and with an unclouded sky. It is rarely over twenty miles an hour and, except in a few mountain-passes where it comes through, and elevated valleys lying in its course, it never exceeds thirty miles, and nowhere exceeds forty. It is limited to about twenty or thirty days in the year, and is never unpleasant unless too hot or strong enough to carry grit or sand. In some places it comes from the east, but is the same wind. There are many places where it is never felt except by its extreme dryness.

With the exception of the "norther," the only winds are the regular sea-breeze and the rain-bearing winds. The latter are from the south, south-west or south-east. Occasionally a rain comes from the east or north-east, and if it ever does start from either of these directions it is liable to wet something before it finishes.

Full records of the wind at the San Diego Signal Station have been kept for eight years. In that time the highest wind registered at San Diego was but forty miles an hour, and that but once. In the classification of winds forty miles an hour is only "high wind," being much below "gale" and "storm." During those eight years it exceeded twenty miles an hour but one hundred and fifty times, or about nineteen times a year. Of these one hundred and fifty there were but forty-seven that exceeded twenty-five miles an hour, but thirteen over thirty, but five above thirty-one, and only one above thirty-six. In sheltered valleys like El Cajon, these figures would be considerably less; while in others more exposed to the desert passes they would be somewhat higher. But these figures fairly represent the whole country, and it may be considered certain that a fifty-mile wind has never been felt in any part of it, and that anything over thirty is extremely rare anywhere.

The sea-breeze blows about four fifths of the year. In winter it is very light, often but two or three miles an hour, while its place is often taken for weeks at a time by a dry land-breeze. In summer it is about eight or ten miles an hour, just strong enough for comfort, but not enough to raise dust. In either season it is caused mainly by the suction of the heated air rising from the land, though in summer it unites with what little is left in this low latitude of the trade-wind of the Pacific, so harsh at San Francisco. This breeze is worthy of a special study, to see why it is that a wind coming from the broad Pacific should be drier than the dry land-breezes of the Atlantic States, causing no damp walls, swelled doors, or rusting of guns; and even on the coast drying up without salt or smoke, meat cut in strips an inch thick, and fish much thicker. Though mean figures taken by a wet-bulb thermometer may show little difference on account of the humidity at night on the coast, these facts, which show the dryness of the breeze by day, are incontestable. But a few miles inland meat two or three inches thick hung up in this breeze cures without any antiseptic, and the skin of a person not exercising is dry beneath woolen clothes. There are of course times on the coast when the air contains plenty of moisture. But with the rising of this breeze the moisture decreases instead of increasing. It can be studied best from a mountain-top.

The summit of Mt. Cuyamaca is six thousand five hundred feet above the sea; and though the view is not so extensive as that from the higher mountains, it has a fuller and nearer combination of all the natural features of the land. But it is not this alone that makes the view attractive. It is not the great ocean lying beneath the afternoon sun like a long golden cloud on the western horizon; nor the great chasms that yawn thousands of feet deep just below one's feet, divided by high rolling ridges, ragged with rocks, smooth with grass, or green with trees; nor the great shimmering sea of sand on the east, with Yuma broiling on its eastern verge; nor the deep forests all around one, where the sugar-pine and the yellow-pine, the silver-fir and the white cedar, are standing in a dense mass of dark green through which one can hear the sigh of the breeze; while lower down the red oak, live-oak, and mountain white oak fill up the vacant places. It is rather the rare combination of the old and the new, the rugged and the soft, the wild and the tame. A hundred miles away our former acquaintance, "Old Gray Back" of the San Bernardino range, looms with snowy scalp two miles into the northern sky, with San Jacinto and Cucamunga but a trifle lower beside it, while between lies the long, high line of gray and blue mountains that separates the western part of San Diego County from the desert. On the south the lofty range continues dark with pine and other trees, broken by bright, green valleys and deep-blue ravines, stretching far away into Mexico in range after range, clad in timber or bluish-green chaparral, or gray with ancient granite; a vast reach of primeval solitude. Almost beneath us on the north-east is a mining-belt where millions of gold yet lie concealed; and from the oak and pine clad knoll in the midst of green meadows where hundreds of cattle are feeding comes the thunder of the iron stamps in the mill where the solid rock is being pulverized to reach the gold. Below on the north-west lie rolling slopes golden-hued with ripened grass, and scattered over them thousands of oaks like vast orchards; and in the valleys between them are farms where the finest of fruits are growing and where grain crops never fail. Lower down are broad plains with thousands of acres golden with grain or stubbles, separated by high ranges of boulder-clad hills or deep cañons, filled with eternal shadow, or broad rolling tablelands covered with chaparral. On all sides rise lofty mountains near by us; some like Volcan and Palomar, almost as lofty as Cuyamaca, crowned with forests, breaking away in long yellow ridges clad in grass along the backs and sides, with dark timber-filled gulches between them; others lower, like the great granite dome of El Cajon or Lyon's Peak. And the whole land is tumbling, tumbling, tumbling, on the north and on the south and on the west, tumbling in long alternations of hills and slopes and valleys away to the distant coast.

It is easy to understand how a land thus rising a mile or more in fifty or sixty miles, rising away from the coast and falling off abruptly a mile deep into the driest and hottest of American deserts, could have a great variety of climates. And such the county of San Diego has, bearing the same relation to California that California does to the rest of the Union—a land of climates within another land of climates. Only ten miles away on the east the summers are the hottest, and only sixty miles on the west the coolest, known in the United States (except upon this coast), and between these is every combination that mountains and valleys can produce.

And here it is easy to see whence comes the sea-breeze, the great glory of the California summer. It is passing us here, a gentle breeze of six or eight miles an hour. It is flowing over this great ridge directly into the immense basin of the Colorado desert, six thousand feet deep, where the temperature is probably one hundred and twenty degrees, and perhaps higher. For many leagues on either side of us this current is thus flowing at the same speed, and is probably half a mile or more in depth. About sundown, when the air over the desert cools and descends, the current will change and come the other way and flood these western slopes with an air as pure as that of the Sahara, and nearly as dry. The air heated on the western slopes by the sun would by rising produce considerable suction, which could be filled only from the sea; but that alone would not make the sea-breeze as dry as it is. The principal suction is caused by the rising of heated air from the great desert. This cannot flow over eastward, because a still greater volume equally hot is rising from the fiery furnace of Arizona; nor on the north, for there lies the greater desert of the Mojave. Some, doubtless, goes out over the Gulf of California, but that is quite narrow, and is already overworked with cooling off the heated air from Sonora and the eastern slopes of the mountains of Lower California. The greater part must flow over in a high stratum upon the west, that being the coolest place surrounding it. It soon reaches the ocean, and once over that its course is easy to determine. It is quickly cooled off, and descends to be carried back again by the suction produced by the air rising from the desert and on the western slopes of the county. Hence, instead of being a wind born of the sea, the sea-breeze is here a mere undertow, a vast returning wave of air, most of which, in its circuit, reaches the desert and mingles with its dry breath. The lowest stratum is, of course, moistened somewhat by its contact with the sea; but after passing a few miles overland, this is mingled with the strata above and there is no more moisture left than comfort and vegetation require. The reversal of this breeze at night, when the air over the desert cools faster than that on the western slopes on account of more rapid radiation through drier air, is alone sufficient to show its cause by day. But it is still farther shown at times by the smoke of chaparral fires which goes eastward more and more slowly as it rises, finally comes to a standstill at about a mile and a half high, and then what little is left of it begins to move westward again; though one must be on a high mountain to see this latter feature. And on the top of Old Gray Back one can feel it setting westward, while in the cañons six thousand feet below it is blowing eastward.

All over Southern California the conditions of this breeze are about the same, the great Mojave desert and the valley of the San Joaquin above operating in the same way, assisted by the interior plains and slopes. Hence these deserts, that at first seem to be a disadvantage to the land, are the great conditions of its climate, and are of far more value than if they were like the prairies of Illinois. Fortunately, they will remain deserts forever. Some parts will in time be reclaimed by the waters of the Colorado River; but wet spots of a few hundred thousand acres would be too trifling to affect general results, for millions of acres of burning desert will forever defy all attempts at irrigation or settlement.

CHAPTER V.

A WINTER STROLL.

A STROLL in spring through some of the smaller valleys of Southern California fills with surprise even the most stolid of those whose world is limited by the pavement. Surely nothing could be fairer or fresher than such valleys as Montserrate, when the full bloom of spring is upon it; when the hills are aglow with orange and pink, and the valley with purple and gold; when thousands of bees and gay but harmless insects are humming through the soft warm air; yet only twelve miles from where the snow lies cold and shining on the pine-clad heights of Palomar. Everywhere the dark plume of the quail nods among the beds of violets; his call rings far up the hill-side, where the granite crags are almost covered with garlands of crimson and white, and he bursts with whizzing wing from the tangle of wild-roses and grapevines along the river-bottoms, from the masses of phacelias that cover the fallen brush, and from the nettles and nightshades that rival the arrow-grass in height.

Out of the little ponds and sloughs the mallard rises with vigorous quacks in a whirl of burnished green and cinnamon, the red head and white sides of the canvas-back shining beneath its throbbing wings as it climbs the air beside him, and both are attended by a body-guard of widgeon and teal, sprig-tails and red-heads, all in a wild medley, that, circling a few times around one, set their wings and glide down into the next pond below, while a score or more of mud-hens scatter, flapping and squealing, into the rushes around the pond. There the rail comes out at times and runs along the shore, and perhaps the large king-rail rises in flight above the reeds, while up and down the slough a score or more of rails utter their shrill cry at the sound of one's gun. The glossy ibis may stand along the shore, where the English snipe is probing the soft mud with his long bill, and the killdeer-plover may trot about with plaintive call; while snowy egrets, both large and small, stand with the bittern and blue heron fishing together.

On such mornings even the door-yard of the ranch-house is alive. From the orange-tree, where the golden fruit hangs beside the snowy blossoms of the fruit to come, the mocking-bird fills the air with wild but tender notes. Dozens of linnets with crimson heads warble among the blooming apricots; thrushes mounted on the peach-tree pour forth the best they have; wee little wrens twitter; humming-birds with ruby throats buzz around the geraniums and roses; while blackbirds by the score, some in coats of glossy jet, others with crimson-barred wings, others with golden throat and yellow-barred wings, chatter and roar around the house-top or barn-roof, sit preening their feathers on the fence, or promenade in the garden walks.

Hares and squirrels, too, enliven the landscape; the former mainly in the morning and evening, the latter all day long. Long-eared hares spring from their beds, clearing half a dozen yards at a bound, or crouch lower in their forms, and flatten their ears closer to their heads. Mild young "cotton-tails," scarcely bigger than rats, peep inquiringly out from between the crimson flowers of the trailing vetch and the dark blue of the larkspur; older ones vanish in zigzag lines of brown and flickering white, leaving a wavy wake among the bell-flowers and marigolds. And toward evening they scamper by dozens over the greensward or sit along the spangled slopes that lead to the hills. Hundreds of the large gray ground-squirrels scatter at one's approach, and often the wildcat or coyote sits far up on the hill-side calmly watching one, and wondering whether it is worth his while to run.

The air, too, is full of life. The eagle, so indispensable to a proper landscape, cannot be depended upon, though often one may see either the bald or black eagle sailing high in air, or perched upon a lofty granite boulder watching an opportunity to descend upon some ill-starred hare or lamb. The buzzard sails on every breeze, and hawks of a dozen varieties are all about; huge red-tailed harriers on the dead limbs of lofty sycamores; trim falcons of ashy white descending with hissing wings to snatch in mid-air some luckless quail of nearly their own weight, yet darting away upward with it with speed unchecked; little sparrow-hawks, scarce larger than the meadow-larks that are singing in the meadow beside them; little gray mottled hawks but little larger than the dove. And down in the heavy timber along the river one cannot walk far without startling from the shade above a small snowy owl, or another of soft brown, with a large head ribbed with soft fluffy feathers on each cheek. The burrowing owl on every little knoll stands bowing and twisting his head at you, and in the bright sun shines the glossy jet of the raven and the crow. And often above all this soars the Calinia condor, with that mysterious motionless wing which has so long puzzled philosophers, floating for hours like a dark speck in the zenith, as though it had nothing to do with earth.

Some of the scenes through which one can stroll, ride, or drive in a light wagon, are passing away, probably never to be repeated upon this earth; such as can still be seen at times north of the Santa Margarita Creek where it empties into the sea. For miles above it there slopes from the shore to the inland mountains a long stretch of table-land so smooth and solid that one may drive or gallop over it in almost any direction. In years of sufficient rain it is covered with a heavy carpet of alfileria and clover, that, starred with thousands of blossoms, rolls away upward toward the inland hills in a hundred shades of color. It seems the very home of peace—such a land as that of the lotus-eaters. The softest of sunlight sleeps on land and sea, and over it plays the softest of breezes, as though fearful of waking it. The great sea, with nothing but a shimmer upon its placid face to mar its resemblance to the blue sky above, looks as if it could never get angry, and the light breakers that mildly grumble along the shore to keep up the appearance of an ocean, seem doing their best to shirk duty. There is a restful tone in the fluty notes of the meadow-lark, whose golden breast shines through the fern-like leaves of the alfileria; a subdued air in the sprightly warbling of the linnet on the sumac; a softened sweetness in the song of the mocking-bird on the bright fusica. The mallard, sunning himself in the inlet, looks as if he had dissolved partnership with care; the pelican, riding near him, seems as if eating were the last thing he ever thought of; and the curlew, along the muddy shore, appears to be taking only a pleasure stroll.

Such is the land as you might see it if your eyes and ears were at leisure. But from the soft sky above, from the plain on every side, from the shore, and from the slough that leads into the land comes an overpowering *honk*, *onk*, *wonk* of Canada geese, mingled with the cackle of gray brant, the *gaak*, *gaak* of the snow-goose, and the *grrrrrr* of sand-hill cranes; for the winged wanderers of the North are around and above you in myriads. Dark and motionless, with long white-collared necks erect, great flocks of Canada geese stand sunning themselves upon the flowery knolls; others, with solemn dignity, are waddling over the greensward, or are feeding upon the grass; others stand in regiments along the low flats that make toward the shore, and thousands more are floating upon the smooth waters of the inlet. Dark dotted lines are widening out of the distant sky; converging strings are crossing the heavens far above your head.

Some, with pinions set and motionless, are sliding downward on long inclines; others, with vigorous *wiff, wiff, wiff* of laboring wing, are sheering off or mounting skyward as they see you. Great bands of sandhill cranes stand in the distance, often looking more like flocks of gray sheep than of birds; while others, far up in the blue, seem floating rather than flying. White geese, with rapid strokes of their black-tipped wings, are swinging low across the plain or calling in the distant sky; while others relieve the prevailing green of the land with lines and spots of white, or float with their dark-gray cousins upon the smooth waters of the inlet.

CHAPTER VI.

GAME, FISH, AND CAMPING.

In no respect is Southern California so defective as in its game-birds. No turkey gleams with black and bronze in its rising sun, and no exultant gobble rings along its hills. There are thickets enough where fancy can hear the roaring wing of the ruffed grouse, yet they echo naught but the buzz of the quail; moors that should hear the spring-time booming of the pinnated grouse, yet the dog may sweep them in vain. There are grounds whose dank, shady silence seems to whisper the magic word "woodcock," yet you hear no whistling wing; and stubbles cornering in some bit of timber or brush, with the stumps, the dead weeds, the briers—all that should be there, except dear little Bob White. Bob White is one of nature's noblemen, and there is no sportsman in California who once knew him that does not feel sad when he thinks of the days gone by when Bob was the leading feature of the autumn stubbles and the tangled thicket. Our quail is quite the reverse. Instead of eluding the vulgar gaze with Bob White's genteel shyness, that so often calls forth the utmost skill of both sportsman and dog to get even a glimpse of him, he is a mere hoodlum, roistering and saucy, awaiting you on the corner with rude stare and impudent whistle, escaping, perhaps, with a sudden twist, and leaving only his coat-tail in your hand just as you think you have him.

Compared with the deer of the Eastern States, whose ancestors have been harried until wildness has become hereditary, our deer is such a mere sheep that to be a great deer-slayer one needs more to be a great walker and a great butcher than to know any thing about a rifle or the habits of the deer.

Yet there are features of the hunting here that fully compensate for these differences. And for one impaired in health or strength they throw the balance quite the other way. Our very best hunting with the shot-gun is in those days when the Eastern sportsman hugs the fire, and the old dog dozing at his feet hunts in dreams of the past. Our best hunting with the rifle is in the cool sea-breeze of those long lingering summer days when our Eastern friends hunt soda-water and cool corners. The hunting season, too, is practically endless, for the times of breeding so arrange themselves that some kind of game is always in season. The ease with which most of the country can be traversed with a wagon or saddle-horse; the habits of game in keeping in easily accessible places; and the long trains of brilliant days, even in winter, when one may start out with absolute certainty of good weather; the general absence of mud, briers, and other annoyances, and the great freedom from insect pests,—all have their effect upon even the toughest ranger of the fields, and he is quite ready to admit that, though inferior in some respects to the best hunting of the East, it is still luxurious in the extreme.

For the lover of out-of-doors who does not care to shoot, the country possesses rare advantages. In the East it needs experience and trained dogs to get even a glimpse of the noblest birds that nature has made. Without such, the lover of nature must there confine his contemplation to robins, bluebirds, and thrushes, and go into ecstasies over tomtits, catbirds, and peewees. Even these are so scarce in places that he who would write of them may get them cheapest at second-hand—a trade quite easily made, now that so many have caught the trick of expression and have at fingers' end all the regulation adjectives. But so far as seeing and studying the habits of game are concerned, the skilled and the unskilled are here about on a level; even the deer being quite easily seen by any one who will take the trouble to walk or ride into their haunts. And in summer one may not only see all the small game that any one but a sportsman wishes to see, but by merely riding along the roads in a wagon, and shooting from the seat while in motion, may generally have all the shooting a reasonable person should desire. Even good duck- and goose-shooting may often be had without wetting one's feet or going two hundred yards from a wagon

The California grouse is found in the high mountains of the lower spur of the Sierra Nevada, and the English or Wilson's snipe, identical in form, color, and habits with the same bird in the East, is found in a few places all over the South. But, with the exception of these and the water-fowl, the only game-birds are the two quails. And these are such distinctive features of the landscape as to be worthy of separate chapters.

The deer is found almost everywhere except upon the open plains, and still abounds in hills that but a few miles away look down upon the rarest civilization of the modern world. Three varieties are found, but two are extremely rare, and one of them, the little chaparral deer, is almost extinct, and never was abundant. The large mule deer is occasionally seen, but the prevailing type is a smaller variety, found from the coast to highest mountain-top.

In flavor the game differs from that of the East. The venison, hares, and rabbits are unquestionably superior; the water-fowl (with the exception of the black brant) and the quails are as unquestionably inferior. Yet he who knows Bob White well, knows that a bird may be considerably inferior to him and yet be very good. Such are both the quails of California when decently cooked. The common method here of cooking them shows how a good thing may be spoiled by the folly of fashion. California hotel-keepers and cooks know nothing of quail but "quail on toast." Bob White is a juicy, high-flavored bird, and "quail on toast" in the East means something. Here it also means something,—to wit, the driest, most insipid combination, next to sawdust on chip, that one can imagine. Fricasseed brown, with cream or butter, the California quail is an excellent bird, but desiccated on dry toast, or subjected to a slow dry bake without stuffing, is abominable. Equal stupidity is shown with the water-fowl. Young and old, fat and lean, are all cooked together in the same way—generally a slow desiccation in a half-heated oven. On the whole, one might as well judge of New York State butter by that found in a Bowery eating-stand as judge of any California product, game, fruit, vegetables, or meat, by the table of even the best hotel. And this, notwithstanding the fact that Southern California has the best hotels, for the price, to be found in any State of the Union.

The streams are at first as disappointing as the land. Upon the map is marked many a stream. But when one comes to look for them one finds, perhaps, only the hot sunlight pouring into a deep cañon and glaring from smooth rocks along its side, or bare gravel and cobblestones along its bottom. Or perhaps only a long gully across the plain is found with steep, ragged sides, and bottom generally dry; with here and there a little puddle of warm stagnant water half concealed with rushes. Or possibly one sees a long line of trees winding through low hills of brown, gray, or dark green, with a dry winding bed of reddish gray sand in the center. Or one may find a long broad surface of dry mica-sand, with dry gravelly bars, leading for miles through green bottom-lands with scrubby willow, cottonwood, or sycamore on each side, with an occasional strip of water showing itself above and then quickly disappearing again.

Yet there is an abundance of water in nearly all these streams, as you would readily understand should you compute the amount of water falling in winter upon the country drained by them. They are dry on top because they are deep beds, many yards deep, of granite sand, with a fall of twelve or fifteen feet to the mile, and often more. Through such a bed a large volume of water may flow without being seen, and the stream would flow above-ground only when there was a large surplus from excessive winter rains. A slight acquaintance with the country shows that it once had far higher mountains and deeper and narrower valleys than it now has. The friable granite, of which it is largely composed, has been worn away by the erosion of wind and rain, and, being extremely light, has been readily carried down by the water. Nearly all the plants and grasses of the hills being annuals, and the soil having few perennial roots to hold and bind it, the valleys have received a much greater wash from the hills than they would receive in any Eastern State, and are filled many feet deep with alluvium. Hence, streams that ages ago ran above-ground the whole year are now many feet below the level of broad and fertile valleys, yet about the same amount of water may be there that there formerly was. And sometimes these streams may be on the other side of the valley from where the surplus water now runs in rainy winters, and many fathoms below the surface. From such ancient channels far below the surface of the valleys comes the artesian water that adds such value to some sections.

The consequence of this condition of things is that you may go for many miles along the lower levels in summer without seeing anything worthy the name of a brook, though finding abundant evidence that at some time there is plenty of water in the channel. As a rule, it is little better if you go into the first tier of hills. You find perhaps a small stream dribbling through a deep glen where the live-oaks and sycamores cast a perpetual shade. Between deep banks where the arrow-grass rears its tall stem above the sunflower and the lupin, and where the mimulus and the nightshade bloom the whole summer through, you may hear it mildly trickling; and then perhaps it disappears in some deep gorge of rock where the wild cucumber sprawls over shattered masses of granite, and far into the summer the honeysuckle clambers over the manzanita on the hill-side near it.

Vainly you look for a pond where you may see the rush of the pickerel for the spoon-hook, or for the deep stream from whose depths you may lure the bass. Vainly may you look even for such streams as delighted you when a boy; for you will find no catfish to fish for after the rain; no eels to "bob" for at night; no suckers to spear upon the ripples or in sunny coves along the banks; no chubs, no sunfish, not even a shiner.

You might make the usual round of the tourist and even spend many months here without ever suspecting that in those farther hills that lie so hazily blue in the distant sky there are springs as cold and brooks as clear and swift as any land can show; the contrast between them and the dry land below making them doubly pleasant. Nor is it always necessary to go far above sea-level. Scarcely anything could be more lovely than Pauma Creek—only fifteen hundred feet above the sea on the western slope of Mt. Palomar—used to be before the white man became too numerous in the land. Now its beauty is marred by dirty paths trampled along its shores; and of the bright fish that once lit up its dark shades as the hook drew them struggling and flashing out of water, nothing now remains but a few wretched fingerlings. Yet here is dark cold water tearing over rapids, hissing among jagged rocks, sprawling over shoals, foaming down falls, spouting through crevices, boiling in basins, sleeping in deep pools; and by its side are great boulders of granite guarding the banks and bridging the stream, just such as those upon which we lay and dreamed away many a summer day in years gone by. Thousands of feet above, the cañon walls rise bare, and ragged with shattered rocks from which the hot sun glares, yet we are in shades both deep and solemn; the air is cool and fresh, and the eye rests ever on living green or soft dark tints. The alder stands in ranks of shining green along the stream; the same as the alder from which you cut your first trout-pole; no mere bush as in the East, but here a tree as thick as your waist, with smooth, dark-brown body and arms that interlace across the stream and form a sunless arcade. Further back from the stream, the live-oak's limbs, adorned with moss, hang low over ivy-twined boulders, from whose chinks the mimulus still shows its scarlet bloom, and around whose bases the gold and silver ferns still hold the green of spring. The sycamore, ash, willow, cottonwood, and elder, are all striving to be its nearest comrades; while the grapevine is trying to bind them all in one brotherhood, and the rank nightshade, with its dark-green leaves and stems, deepens the shade of the arbor beneath. The lupin, larkspur, and tulip; the golden lily, the beard-tongue, and the iris, lingering long after their sisters of the outer world have yielded to the blaze of the higher sun of summer, still show some of their former splendor; while the sunflowers, the columbine, and the tiger-lily are still in the noon of life.

Yet all this is only in the lower ranges. But half a mile from where this brook emerges from the mountain cañon and enters the outer world it sinks suddenly in a vast wash of gravel, boulders, and sand, and appears no more until it reaches the San Luis River, where it adds to the volume of the waters there flowing above the sand. To see brooks and fish such as will satisfy the longings of one's soul, we must go higher than this. And the great mountains of San Bernardino and Los Angeles counties are the farthest southern points where one can find abundant and continuous water combined with an abundance of trout.

What wonder that in a land with such a topography and seasons, with such fine weather, cool nights, and absolute safety from storms, with game and fodder in abundance, camping should be the most fashionable and respectable of all out-of-door amusements? In addition to those who camp out to hunt or fish, thousands throughout the State go every year to camp for the mere sake of camping, to thread the mountain-passes and sit gazing on the lofty peaks, to hear the wind sigh through huge pines, to lie in the hammock and doze away the time in the breeze that searches the deepest shades of the high mountains, or lounge beside the clear cold brooks that sparkle down the winding ravines of the greater hills. Where ladies accompany the party a tent is taken; but in summer none is needed for protection from the weather, and it is far more pleasant to lie beneath the starry sky, the moonlit leaves of some royal live-oak, or the shining needles of the silver-fir, there to sleep such sleep as never is known in a house.

Many, especially those whose homes are in or near the mountains, go to the coast to rest beside the sea, where it is cooler by day than in the mountains, though the dark shades of the timber are wanting. But in the mountains the extremely dry air and the elevation woo a sleep unknown along the shore, and give an appetite quite startling to a dyspeptic. The water of the mountains is alone worth going for. That of the coast is apt to be alkaline, salty, or brackish; and though it has no injurious effects upon those who drink it all their lives, it is not the kind of water one longs for unless very thirsty. But in the mountains the water is so cold, so pure, and so sweet that fancy creates a thirst every few minutes. Nearly all the timber there ever was along the coast has long since been cut off, but that of the mountains yet stands in almost its ancient glory. And in the mountains one can always go upon some spur or shoulder close at hand and look down upon a combination of hill and dale and ocean that seems ever new.

All through the larger ranges of mountains, above four or five thousand feet, are springs and running brooks of clear, cold water, where pine-needles carpet the open halls between huge trunks, whose branches often form a solid shade above, where the sea-breeze ever plays during the hottest noons, and where even before sunset the cool air descends like an angel of sleep. There the gray squirrel springs from limb to limb, or trails his bushy tail along the ground, or sits in some crotch and barks at you. The mountain quail, perhaps, steals down to the water beside your camp, and the ring-necked pigeon may flutter down beside him. The deer, too, may stray almost into your camp, and the mountain bluejay, a gaudy chap with a great dark-blue hood, and a dozen squealing and chattering woodpeckers, will keep you company in the absence of anything else.

But between these lofty hills and the coast are places enough where camping may be equally a pleasure. The broad arms of the black live-oak full of glistening leaves, may take the place of the silver-fir, and the white live-oak may guard the passes instead of the lofty pine. But the deer is as apt to come to the spring at night, the hares and rabbits are quite certain to play around your camp, while doves by the dozen and quail by the hundred may be awaiting your coming at the spring. And yet your camp may be beside a vineyard, where all the choicest grapes of the world are growing, or the orange still hangs far into the summer, and where you may get good butter-milk, vegetables, and eggs for a trifle—the wild and the cultivated resting side by side.

A camping tour is the best way—in fact, the only way—to see California. It is so easy, so free from friction, and, above all, so cheap, that even Shoddy's most frantic efforts to make it expensive are a failure. In good seasons, abundance of fodder lies ready spread for your horses; fire-wood is plenty and always dry; the matches always go, and one needs no guide but one's own will.

These out-of-door charms of California are charms that will endure. Here are natural gardens that the pavement can never overrun, landscapes that will forever defy the rose-blossoming business, and birds that the demands of the market and milliners can never exterminate. On its hills will blow strange and lovely flowers, and over them hum a rare and elegant insect life; from its valleys the quail will call, and in the bright sunshine of its mountains the antlers of the deer will glitter long ages after the great white spoiler of all that is fair in nature has stripped the fields where our boyhood was spent, of all that ever made them worth looking at. But not because the spirit of destruction is wanting. The sordid soul to whom the woods and streams would be the same though containing never a fin or wing, to whom the most beautiful of birds, animals, and fish are merely so much superior provender, to be made the most of while it lasts, is as well represented here as elsewhere. But the hills are too numerous and too rough with brush ever to allow the extermination of game, either by shooting or breaking up of breeding-grounds. And just below lie the great untouched preserves of Lower California, which will always be a nursery for new supplies, as well as a natural park for the tourist who wishes to see a landscape free from tin cans, bottles, and sardine-boxes.

CHAPTER VII.

THE VALLEY QUAIL.

BEFORE the orange-colored glare of the poppy begins to pale along the meadow, before the indigo of the larkspur extinguishes the light of violet and bell-flower, and the gold of the primrose is lost beneath the phacelia's wealth of blue, the large flocks of the valley quail whose roaring wings have all winter resounded in the valleys of California begin to break up, and over the spangled slopes where the first of the pink flowers of the alfileria and the yellow heads of the clover are fading, quail in pairs may be seen trotting about in all directions.

From almost every hill and dale soon comes a soft call midway between *wah* and *waw*, in tone and accent indicative of deep content. This call is from the male bird, sitting serenely upon some rock, bush, or lobe of cactus. It is a note of greeting, a sort of "All is well," to his partner. It is made only by the male bird, and only during the time of nesting and hatching.

The valley quail is most abundant in Southern California, especially in the county of San Diego. From the most dreary parts of the coast-line where the cactus struggles through beds of cobble-stone, and the ice-plant glistens over tracks of sand, to the edge of the mountain-forest where the breeze sighs through lofty pines, and cold sparkling water hisses down the deep ravines, there is scarcely a place where this bird is not perfectly at home, whether in the settler's garden or on the rugged hill-top above it, in the smooth meadow, or among the rocks where the toughest chaparral has to fight for a foothold.

Under some little bush, in a carelessly-made nest, but a little way from where the male is sending forth his greeting, the female lays from twelve to fifteen eggs, or sometimes more. These are larger than those of the Eastern quail,—though the bird is nearly one-fifth smaller than the well-known "Bob White,"—and are of a dull white, well splashed with spots of chocolate-color. The nests are more numerous in the low hills and little valleys nearer the coast, and become scarcer as the land rises into the higher mountains; though up to an elevation of six thousand feet above tide-water there is scarcely a place where they may not be sometimes found.

When the soft lavender tint of the chorizanthe overruns the hills, when the bright clovers are wilting in the lowlands, and the lately green plains are brown with a carpet of sun-dried alfileria, then the little quail begin to appear. Even more active than the young of Bob White, they run and dodge about among the bushes and dead flowers in little dark gray lines, defying, on the very day of hatching, nearly all attempts to capture them. When but a few days old they are quite strong upon the wing, and rise squealing and whizzing in curves of soft, hazy gray when one comes near them.

When the young quail are about three fourths grown, the bevies begin to unite in large flocks as the coveys of pinnated grouse unite in autumn. These flocks often number several hundred. And occasionally two or more large flocks run together so as to form an army of several thousand. This concentration explains the immense numbers in which the valley quail is often found, and makes for the tyro the most bewildering shooting. During this time of combining into large flocks, most of the birds that have been reared in the hills descend into the valleys, where they are apt to remain until spring. From this habit, and not because it is limited to the valleys, the bird receives the name of Valley Quail, to distinguish it from the mountain quail, which remains in the mountains where it was hatched.

The notes of the valley quail are quite varied; and even the same bird often varies within five minutes both the tone and accent of every note. A note heard only during the breeding season is a ringing *whee-ooo* or *tee-ooo* of decided metallic tone, though often quite husky. This, too, is made only by the male and generally when he is in motion. But the *wah* before mentioned is made only when the bird is at perfect rest and mounted in plain sight upon some bush or fallen tree-top. The *tee-ooo* is heard until the young are nearly grown, whereas the other is not heard after the young appear. It is also sounded several times in quick succession, whereas the *wah* is always heard alone and at intervals of a minute or two.

The alarm-call of both sexes, and of both young and old, is a sharp *whit, whit, whit, whit.* But when the young are nearly or quite grow and especially when the flock is large, another alarm-note is very common — a low, muffled *wook, wook, wook,* rapidly repeated from so many throats that it sounds like "*k-wook-kwoo-kook, k-wookook.* The *whit, whit* is the first intimation of danger; the other comes afterward, — generally when the birds are huddled,—and seems a discussion of the extent of the danger. But when the discussion has resulted in a conclusion that it is best to fly, the alarm becomes a shrill *chirp, chirp, chirp,* as the birds take wing, and the same is heard from single birds rising after the flock has been scattered. But the *wook, wook, wook* is not solely an alarm-note; for it is sometimes made in a low, soft tone, when the flock is moving along, feeding, or approaching a spring.

The most common call of this quail is a clear, far-reaching *O-hi-o,* repeated four or five times in quick succession. Often the tone is changed so that it sounds more like *Ka-loi-o.* Often the accent is shifted from the middle syllable to the first and last syllables, so that it sounds like *Tuck-a-hoe.* Again the stress is laid so heavily upon the second syllable that the other syllables are scarcely heard, and the whole sounds like *K-woick-uh*; and again the last syllable is omitted entirely, and the whole becomes a low *K-woick.* This is the call of the different members of the flock to each other when scattered, of the old hen to her chicks, and of the male and female to each other when separated.

Should the winter rainfall be insufficient to make an abundance of grass and seeds, this quail does not pair off and breed, but remains unmated in the large bands in which it has been all winter—a curious case of instinct, shown also by the hares, squirrels, gophers, and bees, all of which decline to increase. But after two or three good seasons in succession the numbers of the valley quail in many parts of Southern California are incredibly great. By the latter part of August the combination of the bevies into flocks is about completed, and dark sheets of quail may now be seen covering sometimes half an acre, or even more, of sun-dried grass or stubble. Out of cactus patches, clumps of sumac, and old rock-piles overgrown with mimulus, ivy, and wild cucumber, they often flutter by hundreds at one's approach. And in the morning or evening, at the spring, in the cañon, or on the hillside, one may often hear for several seconds a steady roar of wings, and on the right, the left, and in front may see the air filled with blue lines of life, wheeling and twisting upward, chirping as they go, and in every direction birds scudding along the ground, clambering over rocks, hopping up into bushes, walking with a *whit, whit, whit* along the limbs of trees, or fading quietly among rocks, brush, or cactus.

When the seed of the alfileria and burr-clover is abundant, this bird seems to be a strict vegetarian.

It is a great ravager of gardens and vineyards, and will touch almost nothing but grapes if it can get them, and the amount of white grapes a quail can eat in a day is amazing.

This bird affords fair shooting by the middle of September, and the open season lasts until the middle of March. But to see the shooting at its best one should wait until after warm and abundant rains have fallen. Then when the land looks like a garden, when the burnished green of the mallard's head shines in the lagoon, and the mellow *honk* of the wild-goose falls softly from the sky, there is often such ease about the shooting, and something so unique about its surroundings, that it is irresistibly attractive.

However skillful one may be in hunting and shooting the quail of the Eastern States, one may be very much amazed at the small number of birds to be got from the very largest flock of valley quail, if unaccustomed to them. Not only do they often rise out of distance for a certain shot, but their first impulse upon alighting is to run, and not to hide, as Bob White does. They put their trust more in speed of foot, and will hide only when well scattered and scared, and even then they lie none too closely. Hence, by the time the easy-going hunter from the East reaches the place where a large flock of these birds has settled in the brush after being flushed, he probably finds nothing. But from the brush seventy or eighty yards ahead comes the sharp *whit, whit, whit,* and the muffled *wook, wook, wook* from a hundred little throats. While the hunter has been going a hundred yards the birds have run together and are fast trotting away. And should he thus go on he might flush them a dozen times without getting a shot. Each time they might rise just too far to shoot, alight just near enough to lure him to follow them, yet be just fifty or sixty yards ahead of him and all ready to fly again by the time he reaches the place where they last settled into the brush.

But let us follow the flock at a rapid pace; charge upon it before its members can unite after alighting; waste no time in trying to kill any birds at first, but fire into the air above them and devote all our efforts to breaking, scaring, and scattering the flock. We shall then see vastly different results. The flock keeps together and stands two or three such attacks without breaking. But at the fourth or fifth rush upon it, it breaks, bewildered, into hundreds of slate-blue lines. Scarcely any of the birds fly over two hundred yards before settling into the cover, and in a moment all is still.

And now before us spreads many an acre of rolling ground covered with a light brush about three feet high, composed of ramiria, wild buckwheat, white sage, and black sage, with occasional taller bushes of sumach or fusica. All of this is now aglow with the brightness of new life; and its wavy folds of green are starred and fringed with the pink, orange, crimson, and blue of hosts of strange flowers, beneath which are now hidden hundreds of quail. Of these the greater part will lie quietly concealed until we get within five, ten, or fifteen paces of them. Many more will quietly vanish on the swiftest legs that ever carried so small a bird. And the rest will either rise at too great a distance to shoot, or will, without moving, allow us to pass and repass them a dozen times.

Scarcely do we enter this piece of ground, when from almost at our feet, from a bush around which the vetch is twining its garlands of pink, a dark line darts a few yards along the ground, then turns suddenly upward with a shrill *chirp*, *chirp*, *chirp* and loud buzzing wing. Never does the valley quail show to better advantage than now, as it wheels in its upward career and brings all its colors successively into view. The slate-blue back and tail, dark head and wings, which we see as it first rises, give place, as it turns, to a full, swelling breast of black and white; and through the dark haze that the swift wings make around it faint cinnamon-colored shadings appear. A broad white collar and dark neckband now show plainly upon the full throat; and over the cunning little head in clear outline against the distant sky stands the long black plume, with its broad disk-shaped tip hanging forward over the stubby black bill.

But we have little time to inspect this bird; for the rising of one often starts several more from around him, and there is a buzz on the right, a whiz on the the left, a *chirp*, *chirp*, *chirp* behind, and the rustling of swiftly plied legs in front of us. Swiftly flashes the flame of four barrels; nothing falls, but at the reports birds get up everywhere. There is a sudden bustle in

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a bunch of poppies; from the chemisal just beyond it, over which the dodder is weaving its orange-colored floss, springs a bird; half a dozen more buzz, squealing and curling out of the morning-glories and golden violets upon either hand at the report of your first barrel; while the second rouses as many more from the blue-bells and shooting-stars around us.

And thus we may go on for two or three hundred yards or more, then turn and come back on one side, then cross and advance upon the other, yet nearly all the time quails, singly, in pairs, and in bunches, will be rising around us. Some dart straight away, others wheel and pass us upon the side; some cross our path in front and go plunging down the hill-side; others spin away upward among the rocks and brush above; others twist even over our heads and whiz away behind us. Some burst into flight at once; others run a few yards before taking wing. Some spring almost from under our feet; others from the spangled covert thirty yards away.

But the climax of this is reached in about twenty minutes, from which time the rapidity of the shooting quickly declines. The quail become more widely scattered, and those that remain lie hidden more closely than before, so that much more walking is necessary to flush a bird.

But for a while the gun flames as fast as one can load it; through its smoke fresh birds are rising, darting, and wheeling; another bird springs from the very bush beside which the last one has fallen, and still others rise between you and it as you raise the gun upon it. And this, too, in February, beneath the softest sun and upon the greenest earth, with great snow-clad mountains looking down through the clear air, with a thousand flowers, all new to your eye, peering at you from every rock and bank and gully and slope, while your friends at home sit by the fire, and poor Bob White huddles up to die in the crusted snow-drift at the East.

So abundant were these birds but a few years ago, and so easily found, that a dog was quite unnecessary in hunting them. They are still abundant as before in places; but, in general, their numbers have been reduced by market shooters to a point where a dog is now quite an advantage; though by one skilled in hunting them and marking the fallen birds fine shooting may still be had without a dog.

CHAPTER VIII.

THE MOUNTAIN QUAIL.

As we pass from the lowlands of California to the pine-clad hills that lie so hazily blue in the eastern sky, the valley quail becomes gradually rarer, until, at a height of about seven thousand feet above sea-level, it disappears. But long before this elevation is reached, or even before timber appears upon the hills, perhaps before the valley quail becomes really scarce, you may suddenly hear a rich *cloi, cloi, cloi*, or *woi, woi, woi*, in tone as mellow and as far-reaching as the whistle of the upland plover. This note is repeated at intervals of two or three seconds; and at a distance often sounds like the tap of a leathern hammer upon a strip of glass laid across two strings.

Instead of this, one may be surprised by a *ch-ch-ch-ch-cheeah, cheeah*, soft and sweet in tone, but deeply tinged with anxiety. Sometimes it is a little harder in tone, and sounds like *quit, quit, quit, quit, queeah, queeah.* When the *cloi* or *woi* is heard, one is not apt to see without some search the bird that makes it. For this is not a note of alarm, but only the call of one bird to another, and they may be hidden in the chaparral. But when the *ch-ch-ch-ch-cheeah* is heard, one may generally see upon the ground, within a few yards perhaps, a plump, full-breasted bird, about one fifth larger than the Eastern quail, but with all of Bob White's artless grace and gentleness of demeanor intensified. Its breast is of slate-blue, with low vest heavily mottled with cinnamon and white, with four broad bands of white further back along each side. The back is of brownish gray, with the tail blue above and cinnamon beneath. The swelling throat is inclosed in white, with a wide cinnamon band below it, and the bluish head is surmounted by a grayish-brown topknot, from the center of which rise, one behind the other, two long and slender plumes of jet black. This is the mountain quail of California, so called because it inhabits the mountains and does not descend in large flocks into the valleys, as does the smaller bird known as the valley quail.

Perhaps with soft and easy step your new friend mounts a stone to inspect you, or with delicate tread walks along a fallen log, stopping at every few steps and turning its head sidewise, all the time twittering a plaintive *ch-ch-ch-ch-cheeah*. Probably a dozen little comrades are about him, stealing here and there over the dead leaves or pine needles, or some are standing still upon the ground, and others hopping upon stones, logs, or bushes to look at you. But all have their long jetty plumes erect, and at least half of them keep up a steady *ch-ch-ch-ch-cheeah, cheeah*. And all this, perhaps, within ten yards of you.

Most pleasing is the contrast between this bird and the valley quail. The valley quail seems to court notice rather than shun it. All of its tones and actions savor of defiance and abiding confidence in its ability to take care of itself. But every motion of the mountain quail indicates gentility, and every tone of voice is full of sweetness and refinement. Here one steals along in front of his companions with all the *naïveté* that is so charming in Bob White. Another stands gazing at you with the woodcock's solemn dignity. Another, standing upon a log, expands his tail and swells out his breast with the imposing yet unpretentious grace of the ruffled grouse. From every little bead-like eye there beams a mild confidence, in which only by fancy's aid can you detect any trace of suspicion.

But a tendency to disappear underlies all this trustful simplicity; and even as they march and countermarch and gaze and twitter so inquisitively, they are steadily increasing their distance from you. Yet their disappearance seems quite involuntary. They linger and look, then move as if reluctantly obeying some invisible power, then stop and move on again, then stop and look and twitter some more. They generally move up hill, and the air is musical with the *ch-ch-ch-ch-cheeah*, until the last quail fades in the chaparral that robes the hill-side. And for many minutes after all are lost to sight there still comes down the same tender sound from the lilac, scrub-oak, and manzanita that bristle above.

In some parts of California the mountain quail is much wilder than in others. But throughout the great mountains of the South they are generally the most guileless little things imaginable. The valley quail, even where never disturbed, is often very wild; but the mountain quail, even when wild, has a wildness of an entirely different kind. He seems to elude you in a manner quite accidental. In his actions there is no trace of stupidity. All is innocent faith and trustful curiosity. When they find their confidence in you weakening, or their curiosity becoming too quickly satisfied, their little feet grow suddenly restless and in a moment bear them away. And if pressed so hard that they can no longer trust their legs, they then can unfold a pair of wings as swift as those of the valley quail and dart with ease through the heaviest chaparral. One can swoop downward and out of a tree with a curving rush that leaves your charge of shot behind and above it; or, as you raise the gun upon it, can vanish behind a tree-trunk in a manner that would be highly creditable to the ruffled grouse. But they are not apt to fly or even run much, unless there be something decidedly aggressive about your movements. Many a flock may you meet down in the wild mountain glen, where you may often stretch upon a rock and see these quail walking and twittering and wheeling about within a dozen steps of you; and if you do nothing to alarm them, it may be three or four minutes before the last one steals gently away.

This quail lays from twelve to fifteen eggs of pure white, and not spotted with brown like those of the valley quail. The nest is made along the mountain side, generally in thick brush, and is difficult to find.

The chicks are little gray flashes of energy, quite ready to run with half of the shell still clinging to their backs. The *ch-ch-ch-ch-cheeah* of the old bird becomes distressingly dolorous when she is with her chickens, and generally terminates in a long-drawn and most touching *k-weeeeawk* as she leads the little brood from danger. Often with heart-rending tones she affects lameness, and performs all the variations of that venerable ruse. Sometimes she is brave in defence, and charges upon the intruder with all the bluster of the turkey gobbler, yet observing due caution in not getting too close. The little ones fly quite well when scarcely larger than wrens, and often the mother flies close behind and below one as if to buoy it up in case its little wings should fail.

The bevies of the mountain quail do not unite in large flocks or bands in the fall, as do the bevies of the valley quail, but remain separate upon the grounds where they were hatched. The mountain bird depends, too, quite as much upon running as the other, and the covert to which it generally runs or flies from danger is both denser and stiffer than that in which the valley quail takes refuge. The mountain bird is more apt to fly into trees or bushes when flushed in timber or high cover, and will not lie well to the dog, though in long grass underlying brush it will often lie quite well after being thoroughly scared. But unless the bevy be thoroughly broken up, scattered, and scared, it will be quite impossible to have any good wing-shooting; and unless the hunter follows at a rapid pace, they all alight together, run fast the instant they touch ground, and rise again far out of shot. Often they must be headed off and confused by firing in front of them before they will lie. Under any circumstances the hunter must move rapidly, take many long shots, and shoot very quickly when a bird rises, or it will be lost in the brush. The shot must open up many an avenue through the dense green of the lilac or manzanita before the white and cinnamon feathers can be seen floating upon the air. Many a steep hill-side must one swiftly scale, and drop upon one's knee at times, to catch a glimpse of the blue scudding beauty before it vanishes among the twigs and leaves above. For these quail become anything but artless when once they learn that you have designs upon them. Their confidence in you, when once lost, is seldom regained that day. And even when running they are by no means easy to hit, and often give a startling surprise even to the skilled shot who in despair of getting a good wing-shot, condescends to shoot at one upon the ground.

Yet this is but small matter of regret to him who really loves the wild beauties of the field and stream for their own sake, and threads the woods and follows the winding of the stream more for the charm that the silent grandeur of nature spreads about him than for the savor of the frying-pan or the love of blood or game count. Such will feel nothing but sorrow for the fall of the mountain quail. The valley quail is so impudent, so defiant, and so mischievous that, as he whirls over in his whizzing career, one feels no more regret than for the death of an English sparrow. But the mountain quail is so polite, so mild, and so harmless in life that the tender heart will feel remorseful at his death, and will spare him as far as the imperative demands of the camp larder will permit.

It is pleasant to know that there is at least one bird that will long survive the ravages of civilization. The mountain quail makes its home in those high gardens that will long lie untrampled by the foot of the spoiler. They are not plenty enough to make a special trip for them profitable; they are too far from the centers of civilization for one to hunt them and return the same day; they are more uncertain in their movements and less easy to find than the more numerous and noisy valley quail, and they often escape the hunter entirely by a timely retreat into dense chaparral.

But for the tourist who goes to the mountains to enjoy deep shades, cold brooks, and quiet retreat from the dust and bustle of the lowland towns, this quail has a charm scarcely second to that of the trout or the deer. When, in the heat of the day, one comes to some little *potrero* where pine-clad hills inclose a soft green meadow, where a clear, cold stream gurgles through grassy banks, and ferns wave darkly green even in the noon of summer, then this bird makes a strange, sweet feeling in the wanderer's heart, whether his mellow call ring from the bristling heights above or the delicate *ch-ch-ch-ch-cheeah, cheeah* come from the ferns beside one as he steals softly away. As a companion in the impressive solitude that broods over these high places, so far from the haunts of men, no other bird can take his place. His friendly coyness; the soft sparkle in the little black eye that so plainly says he would like to be your friend if only it were safe; his lingering look, as if he would like to meet you, but is too well-bred to force his acquaintance upon you; the tenderness of his notes, and the artlessness of his motions, all seeming to deprecate the necessity of keeping at a judicious distance—all these will quickly disarm your intentions, and you will love him too much in life to care to see him in death.

Though sometimes found within a thousand feet above sea-level, and but a few miles from the coast, and even in bare hills where the sunlight streams on glistening rocks and over acres of bare ground, such places are not the home of the mountain quail. It loves the higher slopes of the great inland hills. Far away upward it climbs and lives and loves where in midsummer the snow still lingers on the shady slopes; where the fir grows dwarfed and distorted; far above where the blue-jay squalls and the raven croaks; where even the condor rarely circles, and no hawk, no wildcat, coyote, or fox brings solicitude to the fond mother; even far up where nearly all other birds disappear, and only the little mountain chipmunk flits from limb to limb like an electric spark of life, this lovely bird is perfectly at home.

CHAPTER IX.

THE MOUNTAIN BROOK.

QUICKLY does Nature make her transitions here. The brown and burning plain, where the antelope glimmers like a stilted ghost through the mirage, the wavy hills of red or gray, the sandy washes covered with prickly pear, the rolling slopes clad with cobblestones and cactus, the hard dry *mesas* covered with dreary black brush, the broad sweep of the rich valley, and the winding river-bottom with its wide acres of alluvium—all these the traveler quickly leaves behind as he enters the cañon up which his trail into the loftier mountains leads. The portals of the old world close quickly behind him, and a new one opens before him. He can soon look upon lofty battlements of old gray granite lit up with silvery fire where the sunlight streams through the rifted clouds: soon he may hear the breeze sigh through the tops of great somber pines, and down dark corridors among the massive trunks may see the crimson plume of the snow-plant shining like a red star at night.

From the snow-banks that on these mountains glisten far into the summer trickle little rivulets that unite in the dark defiles and foam and tumble away below. Here again the transition is sudden and surprising. But a short distance below, where the cañon opens upon the plains, the water either sinks from sight beneath a bed of sand, or flows on, a few miles, warm, insipid, and shallow, whirling in its current small flakes of mica that gleam like gold, until it dwindles to a sickly little thread through the absorptive power of the hot, dry air and the thirsty sand along its course. But enter the great walls of the cañon, and there it gayly flows and sparkles, its waters as cold and clear as ever gladdened a thirsty soul. Here it ripples over rapids of shingle, and there dashes down some short cascade; here sleeps for a moment in some quiet pool, and there foams among huge boulders of gray granite or snowy quartz, its bright waters covered by an arcade of lofty alders and willows that stand on each bank and interlace their arms above in perpetual shade. Farther up it divides into smaller brooks, that hiss with speed through winding glens, along whose sides the wild lilac pours forth a rich perfume from panicles of lavender and white; where the mountain mimulus hangs full of golden trumpets; where the manzanita outstretches its red arms full-hung with its little green apple-shaped berries, and the wild mahogany, aglow with a bloom of white or blue, unites with the bright-green cherry to form an almost impenetrable chaparral. And up, still up, leads the brook, its bottom perhaps whiter and whiter, its waters even clearer and colder, until at last it becomes a mere succession of basins, where the water plunges from boulder to boulder, forming a chain of pools green with clearness, where the foam for a moment rests, and cascades where the water is shattered into the whiteness of snow.

Is it not almost enough to stretch one's weary limbs upon one of the huge rocks that line the creek and gaze at the swift volume of the waters—now marching in a column of solid green, then sprawling broken into a thousand flakes over some flat rock; now by its momentum climbing some great boulder and sliding in a thin sheet over its top, then spouting in sparkling jets through masses of lodged driftwood; now massing its forces for a charge upon some barricade of stone, through which it dashes into a dozen streams of foam, then gathering itself again for a rush upon some backward-leaning rock, from which it whirls upward and turns somersault and rolls off in a swirl of froth into a quiet pool, where it rests for a moment along the water-line of moss that edges some dark rock?

If not, cast now the hook into the whirlpool where the waters waltz at the foot of some plunging sheet, or where they sparkle down the rapids before taking a roaring leap into the next basin. There is a flash for an instant in the water below—a flash brighter than the sheen of the water. With a whirl and a swish the line cuts the surface, as the hook is taken with a rush under the cave formed by some large rock.

What manner of fish is this that can thus live unseen in a brook so small that one can lightly step over it and see the clear bottom almost anywhere? It pulls as if weighing a dozen pounds, carries the line from one side of the pool to the other with a rush, doubles itself against the water, and tries to take the hook downward again as it nears the surface. Out comes the hook at last with a fish thrashing and flapping so vigorously at the end, that against the background of alder and granite it looks like a spinning-wheel of silver fire. And down it goes again, its whole course forming a glittering arch through the dark arbor of leaves and rock, and sinks with a splash into the water; while the hook, from which its struggles have freed it, takes a sure hold of an alder branch above.

Scarcely is the line baited and recast when there is a short curving gleam of light in the water beside it. Under the suddenly tightening line the rod feels as though struck with a club, and the fish is away with the bait before you fully realize that he has taken it. But the gleam of light remains for an instant upon the eye, and has a marvelous resemblance to a fish flipping the bait into its mouth with its tail. The head and tail were close together, as if almost touching each other at the moment that the bait was taken, and the tail seemed the nearer to the bait. This illusion, which has led to lengthy discussions, conducted with apparent seriousness and illustrated by cuts, is caused by the rapid turn of the fish at the instant of seizing the bait. It comes like an arrow from its hiding-place, and is invisible until it turns. It strikes its mark with unerring certainty, turns instantly, and darts away with the prize. Or, if it should fail to hold on, its turn is no less rapid, and away it goes below, to make ready, perhaps, for another rush. The fish often turns in half its own length, returning in almost the same course in which it came out.

Perhaps you have learned before that a bite does not always imply a fish. If not, you are now in one of the best schools to learn this wholesome truth. Sharp must be the hook and quick and skillful the movement at the moment the fish takes the bait. Again the hook whirls for a moment in the boiling pool, and again it is carried with a sudden twitch below. Then as you pull upon it the water around the tightened line is churned into flakes and bubbles; then a fish comes struggling a little way out of water, just far enough to get a glimpse of the outer world; then in a twinkling it turns its back disdainfully upon all above, and darts away to the depths below, while the line again snaps like a whip-lash into the alders above.

The hook again dances for a minute in the rapids that flow from the last pool to the one below, and suddenly there is a heavy tug upon the line, and away it goes swaying from side to side. How any fish can thus dash through such shallow waters and among the loose stones that break its current into bubbles and froth is quite as marvelous as the existence of a fish in such a place without being seen. Out it comes nevertheless, bouncing from side to side and dancing up and down as though the air were a spring-board, and in a moment more you hold in your hand the mountain-trout of Southern California. This one is about ten inches long. Its back is a bright olive green, growing lighter toward the [illegible]. The sides are like the purest mother-of-pearl, well dotted with little points of jet, with a thin dark stripe running lengthwise down the center of each side. Beneath it is beamy silver, that showers light all around as it fights its way out of your hand. Its head and mouth are larger than those of the Eastern trout, and it differs from the red-speckled trout not only in appearance, but also in vigor of action and in final flavor.

As you gaze with some feeling of regret upon the beautiful fish the line is returned to the water. Low along the shore upon the opposite side of the brook lies a long white boulder, over which the brilliant head of the columbine is nodding to the lupin and blue-eyed iris that rise from the chinks in the rocks behind it. The water against this boulder lies deep and green as it swirls for a moment along the white sides before rolling away in bubbling volume to the rapids below. The whole is scarcely larger than many a stone basin at a fountain, and seems scarce worthy of a trial. Yet the hook is taken with a rush and a bright gleam of light at the very instant it touches the surface, and the rod is almost pulled from your hand. Away goes the hook with a dash to the opposite side, then the line cleaves the water into two shining ridges as the fish darts towards the rapids. Just as you think you have the line tight enough upon it, it turns with another bright gleam. Vainly will you now try to pull it directly out. It will either break the line or tear its mouth loose from the hook. The problem is now one that only an experienced angler can solve. A small pool like this, with low hanging branches all around, is a bad place to study such a problem; and before you can think what to do the fish is gone.

But a few years ago these fish were so plenty in these mountains and so tame that a failure in fishing was an impossibility for any one. They dashed in full confidence at the clumsiest bait upon the coarsest line. A fresh fish was often ready to take in a moment the same bait that had already caught two or three. And often six or eight trout were taken in succession from the same little pool or rapids. Little difference did it make in what part of the stream one cast the hook. And often one could have good success while standing in plain view of the water. More care and skill must now be used there; but by ascending the streams farther into the mountains an inexperienced person may still take plenty of trout. It is thought by many that these trout will not take the artificial fly. But this is an error, and the experienced fly-caster may yet catch large fish where the common angler gets almost nothing.

CHAPTER X.

THE SEA-FISHING.

SOME of the best fish of the Atlantic are missing in the salt waters of California, and many kinds existing here are inferior in flavor to similar fish found in the Atlantic. Yet the waters that lap the southern coast of California contain an abundance of excellent fish. And many are so strong and active upon the hook that their capture will stir a tumult in the steadiest nerves. Not only is there a pleasant certainty of finding fish, but there is a softness about the great ocean that disarms all the doubts of the faint-hearted, and leaves pleasure unalloyed with fear. For the long train of cloudless days that here forms the summer and autumn reaches far out upon the sea, so that the character of each day may be foretold with certainty. The never-failing sea breeze is so sure not to exceed a certain velocity; the smooth water is so certain to be unruffled by squalls, and the cloudless sky is so certain to bear no thunder-storm, no cyclone, no rain, that a day's fishing is more like a sail on a mill-pond than on the mightiest of oceans. There is plenty of good fishing in the bays, with a rare and varied assortment of excellent fish. But the fishing outside is the most exciting, while the surroundings are the most attractive.

A more unpromising day for sailing never opened than this bright, still morning opens on the Bay of San Diego. Like some wood-embowered lake, it lies glassy and shining, with no swell in the channel, no ripple along the shore, no lapping of its waters against the pier. "No sailing to-day," the stranger would naturally say. But the dweller upon these quiet shores knows better. He shakes the last reef from the snowy sail and waits in patience.

Not long does anxiety consume his soul, for already a deeper blue is tinging the waters down the bay, and off the mouth of Spanish Bight its smooth surface begins to wrinkle. The sail soon yawns and stretches, and the boom swings lazily over to the landward side. As the sun mounts higher through the dreamy haze that lies along the inland hills, ripples begin to sparkle in the channel, the plash of water is soon heard against the bow, the wrinkles fade from the bellying sail, the little vessel careens to leeward, and the gentle plash along the bow soon changes to a steady thump-thump.

On we go through the ship-channel, with the shores of the peninsula on the left, and on the right the high rolling slopes of Point Loma, with its lofty lighthouse clear cut against the blue sky on the west; and on through the narrow entrance at Ballast Point, where a lazy swell rolling beneath the boat tells us we are nearing the sea. The land soon widens, the harbor is past, and on, on, on we go over swells so long, so lazy, and so smooth that we know not when we cross the bar. We can see far down the outside line of the peninsula that forms the harbor; but there are no long, green lines of foam-crowned water charging upon it with impetuous rush. Only little threads of white near shore that curl and froth more like the wash of a steamer in some inland river than the breakers of a mighty sea. The porpoise rolls in glistening curves over the water beyond; from out the swell beside us the seal rears his round head, wet, black, and shiny in the sun, and turns upon the boat his great human eyes. But otherwise it looks little different from the harbor we have left, for the sea-gull, as if inside, calmly sits on the floating kelp, and the white pelican drifts along on the gently heaving surface, stands in long ranks along the shore, or flaps his way lazily through the air, descending with heavy splash into the water as he spies some appetizing fish. And off on one side, near the harbor entrance, a score or more of pelicans are fishing in company, as they do sometimes in the harbor, one rising from the water before the last one descends, so that they seem a revolving chain of large white bodies.

Meanwhile our trolling-lines, having at the end large hooks wrapped with white rag with a streamer or two floating an inch or two beyond them—a device quite as good as bone, ivory, or a genuine fish if it only goes fast enough—have been gliding through the water behind, but have captured nothing but a few shreds of floating sea-weed. But there is no ground for despair. It is too early in the day, and the breeze is not yet strong enough for good speed. Two brown streaks in the water just behind the hooks, visible only to him who knows what they mean, tell us that fish are here. They are about two feet long and one and one-half inches wide, and are a few inches beneath the surface of the water. They are barracuda inspecting the bait. As some hunters do not care to shoot a bird upon the ground, so these fish care nothing for the bait until on the wing. They will often follow it for a hundred yards or more without attempting to touch it. But let it go fast enough and they often come with a rush and throw themselves half out of water as they take it.

Sphyræna argentea

On each side the ship-channel, beyond the bar, is a long bed of kelp, and it is often well to run into that and try still fishing until the wind reaches its full power at mid-day. The kelp-fish are very different from those caught by trolling, and some of them are of very fine flavor. In the kelp the surface is perfectly glassy, though the water rocks with a short, uneasy swell. But by letting down the sail, and making a rope fast to a bunch of the long brown leaves of the kelp, a good enough anchorage is made. The tackle needed for these kelp-fish is very simple. A long line with a sinker at the end, and a hook or two baited with meat, and attached several feet above the sinker, so that the hook shall not rest upon the bottom, but be quite near it, is thrown out, and down it goes, full twenty fathoms to the bottom. The green tint the water wears outside of the kelp is gone. Here it is deeply blue, yet so transparent that one can almost see to the bottom. Far below the kelp can be seen reaching out its great arms on every hand, like some monster of the deep; and in the openings between them floats many a shapely fish, almost as clearly seen as if in an aquarium. Some are lithe and trim, others thick and stubby. Some are a light grayish-brown upon the back and mottled with dark brown spots; others are deep olive-green, and others are a brilliant red.

But a sudden tug upon your line interrupts your inspection of the blue depths. Up comes the line, bringing a lot of kelp-leaves entangled within it, but at the end is a flapping, thrashing mass of crimson. This is called the "red-fish" (*Pimelometopon pulcher*). It is about twelve inches long, broad and deep of body, and rounded upon the back, and is a bright crimson, shading toward flesh-color underneath. It is a fish of very fair flavor. Scarcely do you get him free of the hook before there is a tug upon the other line. Up it comes, bringing a larger fish than the last, struggling vigorously and gathering plenty of kelp-leaves around him before he clears the water. A very good fish this (*Heterostichus rostratus*), but not very fascinating in appearance. It is about fifteen inches long, deep and broad like the last fish, but is a pale brownish-gray in color, with dull, leaden eye, and, along with several other varieties, is commonly called "kelp-fish."

And now comes a fish well worth catching. He thrashes about with great vigor as he is lifted over the edge of the boat; his eyes are bright and full of fire, and the spines of his dorsal fin stand savagely erect. He is about a foot long, deep and thick in body, but withal trimly built; has a large head, and full, massive jaw, and is well dotted with brown spots. This is the "rock cod" (*Serranus maculo fasciatus*), one of the best table-fish upon the coast.

Spotted Cabrilla
or
Rock Bass.

Thus fish after fish comes struggling out, good-looking, passable, and homely, with an occasional greenish carp, mottled with brown, and carrying, perhaps, a few barnacles upon his back, until the fullness of the breeze advises that it is time to troll. Other boats and Chinese junks outside the kelp are rolling here and there over the lazily heaving surface, and on the stern of each are men hauling in lines hand-over-hand, and something flashes upon the end as it is hauled up the stern.

Once more, then, upon the open water. Though the water is still smooth, there is a decided increase in the breeze; the boat now leaves a foamy track, and the hooks ride so near the surface, with the increase of speed, that their white swathing is plainly seen as they spin down the slope of each receding swell. And before they have passed many swells your line is twitched from your hand and a line of silvery light shines for an instant below the surface where the hook was just riding. From side to side the line cuts the water with a swish as you haul it in, and a long, bright, and slender fish jumps above or darts below with frantic rushes. You may have thought the tackle was clumsy and unscientific when you first saw it; but you now wish it were a trifle stronger, if anything. There is no time to play this fish or drown it. It must be hauled quickly in, for a heavy splash at the end of your other line announces that there is plenty to do. In comes the prize, hammering the stern of the boat with its tail as it comes up, cutting all manner of figures in the air until drawn over the side. Arriving in the boat, it dances on either head or tail with about equal facility, until you tighten the line and begin to speculate upon the safest method of getting the hook out of the sharkish mouth. This fish is the "barracuda" (*Sphyræna argentea*), one of the best fish of the Pacific Ocean. It is nearly a yard long, lithe and shapely, with bright, pearly sides, and a dark line down the center of each side. It has all the appearance of a pickerel, though much brighter and clearer in color. It has the ravenous jaw, with rows of serrated teeth, and the same trim figure, built for speed, and is, in fact, a great ocean pickerel.

But there is little time to examine the prize, for at the other hooks there is a vigorous splashing of the water and a confusion among the lines, which are carried across each other with a rush, and then brought back again with another rush that betokens an interesting tangle among them. And there, too, the hook you have just taken from the mouth of the barracuda, and tossed again into the water, is caught again by a bright object darting up from below the instant the line is straightened and the hook is under full headway. Four fish are now dashing and flashing about on the ends of the four lines, and all of the lines but the one last thrown out are in such a tangle that it is best to leave them and get in the last line before it too, is added to the rope into which the other three are fast being twisted.

Be careful now of your fingers, for you have caught a fish even stronger and more active than the barracuda. The line runs from right to left and back again through the water, throwing up ridges of foam in its rapid course. But though the line is slowly taken up, each sidewise run of the fish is bent nearer and nearer the boat. It feels as if it weighed a hundred pounds, but, nevertheless, it is coming. And now, as he nears the boat, the victim darts about with frantic rushes of wondrous speed. Now he dashes away towards the boat's bow, as far off on the side as the line will allow, laying himself over so that the light gleams in a broad band from his side of silver and gold. Now downward into the dark-green depths he plunges, and away goes the line under the boat, and out he comes again behind, breaking from the water with an upward rush that throws him over the other three lines.

With much exertion, the four lines are finally hauled in together, though our fingers smart well for it, as on the end of each line a fish goes tearing about. In a moment confusion reigns in the boat. There is a gay medley of heads and tails; of shining, throbbing sides and tangled lines; of hands vainly feeling for a secure hold, and feet vainly exploring for an anchorage upon bouncing vibrations of opalescence and pearl. For three barracudas and one Spanish mackerel are on the lines. This is not the Spanish mackerel of the Atlantic, though called by the same name. Though inferior in flavor to that splendid fish, it is still, when well cooked, a highly-respectable fish, and in gamy qualities inferior to few fish of its size. This fish (*Sarda chilensis*) is a little deeper and thicker than true mackerel proportions demand, but has the unmistakable tail, mouth, and markings of the mackerel family. It is about two feet long, weighs from eight to twelve pounds, and is lustrous with the most delicate shades of green, gold, opal, and pearl. Long after the barracudas have ceased bouncing, it hammers the deck with alternate strokes of head and tail, and if not secured will bounce itself overboard quickly enough.

Pacific Bonito
Skip Jack,
or Tuna.

The lines are finally disentangled, the hooks need no baiting, and in a moment are floating away behind. No sooner are the lines fairly straightened, and the hooks again under full speed, than there is a sudden swish and a splash in the water, and two of the hooks are taken at one dash. Another swish and splash, and the other two hooks are taken before we have the first two hauled in one fourth of the way. There will now be little time to rest, for we are in the midst of a school of fish. But we may as well be calm about it. We shall at all events get all the fish we need and have all the line-burnt fingers that a successful fisherman requires. What if we take in the lines and roll about for a while on the long, tumbling swells! The weather is so soft and so cool, the sky so bright, yet the sun so mild! There never was such a day to lie down and smoke; to gaze upon the great shining plain upon the west, or on the long lines of dreamy blue mountains on the east; to listen to the ripple and thumping of the waters at the bow and the fluttering of the streamer at the masthead; to feel the little vessel careen as she goes sliding down the shorter slope of some great swell, righting herself as she climbs the long slope of the next one, yet feeling all the time as secure as if taking a moonlight row on some small lake, where the winds are hushed for the day.

But there is little rest for the angler in the midst of fish. Again the lines are tossed out, and in an instant we see that we are still in the school. Here a greedy barracuda swallows hook, rags, and all, and before it is extracted from the ravenous throat another is tugging at the other line, and three or four brown backs lie close behind in the water awaiting a chance at the hook. And on another line a Spanish mackerel is careening wildly about, dashing over, under, and all around the other lines. Upon our lee is a large Chinese junk that we are fast overtaking; and fish are flapping and flashing up the stern to the deck, where three Chinamen, each with two lines, are chattering and grabbing at the fish as they bounce and dance on the deck. On the weather-bow a pilot-boat is gayly rolling over the swells with three or four men in the stern, and we can see the light shine from fish as they are drawn struggling up the side and thrash about upon the deck. And behind all of the three boats there is a rush and splash and jump of fish as if half a dozen were fighting among themselves for the first chance at the hooks.

CHAPTER XI.

THE ANIMALS.

THE wild animals of Southern California are numerous, though many of them differ considerably from the same species as found east of the Sierras. The distribution of all but the hares is very variable.

The elk has not been known south of the San Joaquin valley since the discovery of gold, and even there is probably now extinct. The gray wolf, too, is nearly extinct; and, south of the great mountains of Los Angeles, Kern, and Ventura counties, the grizzly bear is almost gone. A few mountain sheep are left on some of the larger mountains, and some antelope on the larger plains. The panther occasionally kills a deer or raids a sheepfold, but is rarely seen. Two kinds of wild-cat—one of a tawny brindle, the other a gray brindle, and by many called "lynx"—are quite abundant, and display marvelous dexterity in pulling the shingles from the roof of a chicken-house and climbing out with a chicken, or climbing around on the slats on the sides, scaring the poultry off the roosts, until the scared fowls stick their heads between the slats, when they pull off their heads, and often pull out the whole body piecemeal.

The coyote is about the same as the coyote of the alkaline plains. He lives mainly in holes which he burrows in the plains or in the hills, though he often lives in chinks in the rocks, and sometimes dispenses with all cover except the dense chaparral. He makes night tuneful with his yelps, and his long, gaunt form adds to the landscape a decided expression, as at the rising of the sun he scuds away over the plain. He eats everything, from a quail's egg to a humming-bird, from a water-melon to a sheep; is very adroit in his descent upon some old hen that strays too near the brush, and can scare one off the roost, if the door happens open, and seize it in less time than the wild-cat can climb up for it. The red fox is abundant, though smaller than the red fox of the Atlantic States, and has a grayer coat. He is a master in catching quails and hares, and can snap up a stray hen almost as deftly as the coyote. The raccoon is abundant in places, though it seldom lives in trees, preferring holes in the rocks, the heavy masses of rushes or reeds around lagoons, or the heavy brush along river-bottoms. Like the fox and coyote, it is very fond of grapes, and will go miles at night to a vineyard. The badger is abundant, though smaller than the badger of the Upper Mississippi, and with more gray in its coat. It lives in both the hills and plains, and seems to have the same habits as the Eastern badger.

The woodchuck, opossum, mink, musk-rat, martin, otter, wolverine, and beaver seem to be wanting. A brown weasel is abundant in a few places, but over large tracts is never seen. The ermine, too, is missing. The rat family is well represented, and though lacking the audacity of the Norway rat, can yet sustain in a creditable manner the family reputation for mischief. Two varieties of wood-rat are common—one almost as large as the Norway, the other about half as large. They build nests of brush, the smaller one mainly in trees, the larger one more often upon the ground. Some of these nests are three feet in diameter, and nearly as high. Another kind, often mistaken for the tree-rat, lives in holes in the ground.

The native mouse is of a lighter gray than the Eastern mouse, has larger ears, and a more fuzzy tail, especially toward the tip. There are two kinds of this mouse—one living in the ground, the other more in brush and trees. There is a short-tailed ground-mouse, much like the Eastern meadow-mouse, but larger. It rarely or never enters houses. There is also a long-tailed jumping-mouse, or jerboa, often called "kangaroo mouse." It is of light gray above and whitish below, with large ears and long tail. It is larger than the common mouse, long and lithe, with very long hind legs, disappearing with long jumps, much like the kangaroo, but touching the ground with its fore feet. It lives mainly in piles of brush built upon the ground, or in low bushes, and does little or no mischief. Another, resembling a squirrel as much as a mouse, longer and lither, running with great speed and long, high jumps, is of light gray, nearly white along the center of the back and hips, and with a fuzzy tail of gray and white. It lives mainly in the low clumps of prickly pear in the dry, sandy half-desert sections, and is never seen even in many of those. It seems perfectly harmless, though very wild.

The ground mole is rare, and is smaller and even finer of hair than the Eastern mole. The gopher is larger than the gopher of Minnesota, and of dark-brown color, and hardly ever leaves its hole, even for a foot or two. It comes to the surface but twice a day—in the morning and evening—to clear out its hole. It builds long galleries or runs, underground, some being a hundred yards long, with many branches. The mole plows up the ground; the gopher carries it out. On each side of the neck is a large pouch, into which it paws the dirt as it excavates. When the pouches are full it goes to the surface and empties them, leaving little piles of dirt here and there. It works about half an hour or so at a time, and always closes up the hole before leaving. Although they show little more than the head above ground and are very quick, a cat that understands them can readily catch them.

The red squirrel, fox squirrel, flying squirrel, black squirrel, and chipmunk of the East seem to be missing, again. Above an elevation of four thousand feet is a gray squirrel, apparently the same as the one found East, though its habits and bark are quite different from those of the latter. At five or six thousand feet is found a thick-set, bob-tailed, striped-sided chipmunk, about twice the size of the Eastern chipmunk. It climbs but little, living in the ground and in holes in the rocks and fallen trees. At about the same height is sometimes found a squirrel of about the same size, build, and activity as the red squirrel of the East, but of a dull-gray color. I have seen this squirrel on only one mountain, and had no time then to observe its habits. Still higher up, even to where the trees begin to grow dwarfed and to disappear, lives the most delicate and interesting of all the squirrel tribe—a little gray thing like an attenuated mouse, with a black stripe on its back from the center of its head to the tip of its tail. It surpasses the Eastern red squirrel in speed as much as the red squirrel surpasses the clumsy fox squirrel, flitting rather than springing from tree to tree—a flash from an overcharged battery of vitality. But the most common squirrel is the ground-squirrel, found mainly in the lowlands, generally in open ground, and disappearing at five or six thousand feet, or in very heavy mountain timber. It is about the size of the gray squirrel, but built a trifle heavier behind. Its color is a dirty gray, lightly mottled. Its tail is neither so long nor so heavily clad with hair as that of the gray squirrel, but in other respects it might readily be mistaken for it. Notwithstanding a strong prejudice to the contrary, they are very good eating, especially when young. But they are so plenty and such a pest that few ever touch them. They are fair tree-climbers, and can even spring from tree to tree, though not as far as the gray squirrel; yet they never live in trees, unless in a fallen one, but inhabit holes in the ground and chinks in the big rocks. Their numbers are often amazing, whole hill-sides being sometimes honeycombed with their holes. Often one may see fifty scampering up a hill-side from a grain-field at one's approach, or hear a dozen drop out of a peach-tree with a *plump, plump, plump, plump* on the ground, each one scudding away, perhaps, with a whole peach in its mouth. They are very destructive, eating all sorts of grain, fruit, and garden stuff, and finding their way to the corn-crib or barley-sack very readily. They are often bold enough to enter a house, if no one is about, and have been known to climb on the table and attack the butter-plate, even when the family was in the next room. But, as a rule, they are now quite wild. These squirrels, with the whole rat, mouse, gopher, and hare tribe, can live without water. A dry winter, however, stops their increase, as it does that of the bees, hares, and valley quails. They seem to know there will be a scarcity of food. In such years no young are seen, and in the latter part of the season even the old ones disappear, becoming dormant, and awaiting in their holes the rains of the next winter.

All the hares are much superior in flavor to those of the East, but are so common that many are prejudiced against them. The large hare, or "jack-rabbit," weighs seven or eight pounds, and is of tawny gray, streaked with black hairs upon the back, but is a bright tan color underneath. Its ears are nearly double the length of those of the Eastern rabbit; its tail longer and narrower and striped with black. It is found as high as five thousand feet, though it becomes rare beyond three thousand, and is most abundant in the lower levels. There is little ground too poor for it to inhabit. It thrives without water or green food of any kind, and in the driest and hottest parts of the land, miles away from either, its young will be as sleek of coat and as bright of eye as if daily groomed and kept on fresh cabbages. It is, however, a great lover of green food when obtainable, and will travel miles at night across bare plains and ravage a melon-patch, in spite of half a dozen dogs staked out around the edges to preserve it.

Few animals are more graceful than this hare, whether skimming the plain before the outstretched greyhound, or, roused from his form, he dashes away with high jumps as if to take a better view of the intruder, or, stopping and rearing upon his hind legs, stands erect, with ears pointed at the zenith, and surveys him at safe distance, then again lengthens out his trim form and hugs the ground like a racer until a mile away. Sometimes at early morning or evening you may see him scudding along the plain as if in play, running two or three miles, perhaps, most of the time at high speed. And thus he plays about until the sun gets warm, when he will stand or sit a few moments in the shade of a bush or rock, and then retire to some bush, low shrub, or bunch of flowers, where, if not disturbed, he sits till about sundown. A fine runner he is, too, and gifted with good staying qualities. It takes a good greyhound to overtake the best of them, while the slowest ones distance a common dog at every bound.

Not only does this hare furnish fine coursing with greyhounds, but it is an interesting subject for the rifle. Running across the line of fire under full speed, even at only twenty-five yards, he makes a mark of which no rifleman can be too confident. And his antics when you miss him are often more interesting than to see him turn half a dozen somersaults when hit. Sometimes he springs a yard high, as the dust flies from the ground beneath him, and away he goes at a swifter pace than before, or wheels off at a right angle. Often, when the ball strikes ahead of him, he doubles instantly, without another forward jump, and speeds away upon his back track as swiftly as he came down it before. And sometimes, when the ball sings between his ears, he will suddenly stop and shake his head, apparently as dazed as some long-eared people are when they hear fine music.

The larger "cotton-tail" is about three fourths the size of the common hare of the Atlantic States, and of about the same color. It lives in the low hills and brushy edges of the plains and valleys, and the grassy and weedy parts of river-bottoms; cares less for timber, and keeps more in holes and chinks in the rocks, than the Eastern "cotton-tail," and runs into them oftener when started. It is very abundant, and none too easy to hit even with a shot-gun, running with a quick, zigzag motion, and dodging and twisting about in the brush. The best shooting, however, is on moonlight nights, when snap-shooting at the zigzag bit of white that marks their course is not to be despised. And still less contemptible is shooting at them with a 22-caliber rifle. The flesh is white and is very good eating, while the larger hare is pronounced by Englishmen fully equal to the English hare.

Where the slopes from the plain begin to sweep upward into hills covered with heavier brush, a still smaller hare appears, about three-fourths the size of the one just described, of a mouse-blue color, tinged with gray, and with less white upon its tail. It also is called "cotton-tail," and often mistaken for the young of the other kind. It is often found far up among the rocks and chaparral, where the other "cotton-tail" is seldom seen, though both are often found upon the same ground. It lives less in holes than the other, and depends more upon dodging about in the brush. Its flesh is very white and delicate, and it makes good sport for the shot-gun, but keeps in too thick brush and dodges too much for the rifle.

The mode of hunting these hares often adopted by the Mission Indians affords the best sport, though few white men dare do the rough riding it requires. Fifteen or twenty men on mustang ponies, each armed with a club about the size of a policeman's "locust," scatter out in the brush where the hares abound, and soon the whole line is transformed into a medley of whooping and yelling riders and dashing and wheeling horses. The cotton-tails, overtaken and headed off at almost every turn, become confused; some of them squat, others run here and there looking for a hole. Whack! descends a club on the back of the first one that squats, and often before it squats, being overtaken and hit in full run. The rider, reaching from the saddle, picks up the game and club without dismounting, and plunges again into the midst of the uproar. The horses smash through heavy bushes, clatter among stones, and jump over boulders and gullies at an alarming pace, yet are so sure of foot, and so quick to catch themselves if they do stumble, that a rider is rarely thrown. Wonderful skill in rid- and club-throwing is often shown by these Indians. Even the large hare, swift as he is, often fares no better than the "cotton-tail," especially if they can drive him from the larger brush out upon the plain. Some rider is quite apt to overtake him and either hit or turn him. If turned, he is headed off and struck at, whichever way he may run; and if he cannot reach heavy brush or rocks, he soon becomes confused, and after various futile twists and turns falls under a descending club. A party of fifteen will often catch in this way as many as seventy-five "cotton-tails" in little over an hour, some of the best riders coming away with twenty or more strung over the pommel of the saddle.

CHAPTER XII.

A GLANCE AT THE BIRDS.

To the ornithologist Southern California presents a field both extensive and little known. It is doubtful if every variety of bird here found has been even classified. It is quite certain that little more than that has been done, and that their habits, notes, and points of difference from their brethren of the Atlantic coast have been quite neglected. The birds alone would make an interesting book. But I can do no more than glance at a few of them, noting a few peculiarities of some not before mentioned.

The majority of the birds here vary either in color, marking, notes, or habits from the same birds as found on the Atlantic coast, and many vary in all of these respects. The robin is here of a more ashy hue upon the back, and of slightly paler breast, though one might not notice it at first. His piping is feeble and husky, and the joyous carol of spring is subdued to a sort of sorrowful lament. And where do you suppose it is heard? In the orange, almond, or apricot tree—in the door-yard or orchard? Not a bit of it. He spends little of his time in anything corresponding to the old apple-tree of the Eastern dooryard. He may in winter or late in spring spend a few days about your house, but most of his time he will pass in the hills among the chaparral, far away from houses, or among the sycamores or cotton-woods along the streams or low valleys. There he remains unmated sometimes even as late as the middle of May, when the apricots are ripening and the alfileria is yellowing into death; perhaps quite wild, though never shot at, and making no sound but an occasional feeble and husky squeal. In a month more you shall find him singing the song of springtime and love; but it will probably be miles away from all the works of man, away up in the pine woods of the big mountains, where the clouds tumble in long cascades of snowy fleece over gigantic ridges.

The meadow-lark is marked about the same as in the East, but all his notes are different, of fuller richer *timbre*, though less tender. It nests almost anywhere, where there is grass; but after the young are grown they often go to the hills instead of remaining on the low grounds or meadows. In the autumn they often gather into companies of a hundred or more and keep high up along the hill-sides or table-lands, a thousand feet or more above where they were hatched. The turtle-dove is very abundant, and seems identical in all respects with the dove of the East, except in the habits of nesting occasionally on the ground sometimes very late in the fall. The whip-poor-will and night-hawk are both missing, and in their place is a solitary bird like a cross between the two, rarely seen upon the wing, and making no sound, except occasionally a feeble, muffled *mew*, *mew*, *mew*, when flying. An occasional *chee-a-*

woo comes from the hills at night, which is probably made by this bird, but it is quite difficult to prove it.

There are two thrushes, both with brown backs and buff vests. One is as large as the robin, with much larger tail and bill, the bill curved like that of the sickle-billed curlew; the other is smaller, with a straight bill and short tail. They live mainly in the brush, hopping about upon the ground. So seldom do they sing that one would suppose there was little music in them; and, indeed, there is but little when compared with the Eastern thrush. For a little while after the rains have started the grass they may mount a bush and sing; but instead of the joyous overflow of love and happiness of the thrush there is too much of the perfunctory squeakiness of the cat-bird. The larger thrush occasionally imitates quite well the call of the valley quail; but as it imitates nothing else, it is possible that the imitation is accidental. The sweetest of all the song-birds is the mocking-bird. In size he is about the same as the Virginia mocking-bird, a little more trimly built, and with similar colors but a little differently arranged. The tone of his voice is about the same, but his *répertoire* is much more limited. Indeed, he scarcely deserves the name of mocking-bird, because he mocks nothing that is found here. His song consists of only seven or eight changes, which are always the same. But he is pretty, graceful, and harmless; and, whether flitting through the garden, with long tail and white-barred wings outspread, or mounted on the pyramid of dark green, gold, and snowy white that the orange makes in winter, he fills the warm sunlight with his pure, sweet notes, sounding an indefinable something that sends back one's thoughts to the early days of springtime and love.

For a few weeks in spring three kinds of orioles, differing mainly in the shades and arrangement of the orange and black, make the woods and orchards tuneful with song, and bright with the flash of their finery. The markings of all differ from those of the Baltimore oriole, and their song, though a little longer than that of the latter, is deficient in its richness and fullness of tone. Of all the warblers the linnet is the most cheerful and enlivening. Almost everywhere one may see his little body of gray and brown and little crimson head and neck, and even from the vine that covers your porch he often rolls forth his tide of song. The bird that most nearly resembles the wood-robin is silent, for he is seen only in the fall. The ground-robin, or "chewink," resembles the Eastern bird in habits, though not exactly in markings. But it rarely makes a sound; and when it does, it does not say *chewink*. The cuckoo or "cow-bird," cat-bird, bobolink, goldfinch, and fire-bird seem wanting. The "cow-blackbird" is also missing, but the "crow-blackbird," or large blackbird, takes its place among the herds; not only picking flies from the legs of cattle, but sitting composedly on the backs of sheep and swine, even while the animals are walking.

The woodpeckers are abundant, but most of them are like those of the East. The highholder, or yellow-hammer, however, is of a deep-orange shade beneath, makes no sounds but a sleepy squeal and a stupid *krrrrr*, and these but rarely, and spends most of the time upon the ground feeding upon ants, instead of hunting bugs and worms in dead limbs. He has also the singular trait, in common with most Californian birds, of being very shy, though never shot at. Another woodpecker, about the size of the highholder, and almost pure black, flying with almost a steady flight instead of dipping, is found here, but is quite rare. Various little ones, with pepper-and-salt color, or striped jackets, with and without red topknots, and full of noise, are found, especially in the timbered mountains; but the large black, red-headed woodpecker, sometimes called "cock-of-the-woods," or, by some rustics, "woodcock," is missing.

There are half a dozen varieties of sparrow, some larger, some very much smaller than the common "chippy;" none exactly like him. Some are quite silent, some pretty little warblers, but nearly all are shy and retiring. Two kinds of wren are common—one about the size of the Eastern wren, but of a lighter gray, the other a wee little gray thing about one half his size. Both can speak their little pieces with all the glibness and pertness of their Eastern cousin. The king-bird is a drab-coated rascal that lives on nothing but bees, and wakes one an hour before dawn with a noise more like the filing of a saw than the notes of a bird. There are several delicate little bug-catchers that glide about the limbs of trees, and pick slugs from the under side of leaves as deftly as any birds; and little fly-catchers that are smaller than those of the East, but can snap their bills quite as energetically. The Phœbe bird is of darker shade than the Eastern one, but its note is much the same as the note of the latter. And there are three kinds of bats, of which one kind is little more than half as large as the common bat, and much more erratic in its flight. The blue-bird differs in all points but form and color from that of the East, being shy and solitary, and rarely uttering a sound. He is more like the indigo-bird, of which there are two kinds—one small and very brilliant in color, the other larger and less showy; but both rare, silent, and solitary.

The chimney-swallow and martin are not found, but there are two varieties of mud-building swallows, with shiny blue coats and white vests, that make jug-shaped nests, and a gay little ethereal thing that makes its nest in cliffs of sand-rock and similar formations. Starlings, finches, and grossbeaks are found different from any in the East, and so rarely seen even here that it is doubtful if all have been classified, because a naturalist would have to spend many a year in the different elevations and seasons before he could be sure that he had seen all the birds. The upland plover is wanting, and the golden plover is rarely, if ever, seen inland, though his place is supplied by a fine little gray plover often abundant in places after the rains have started the grass.

About the only bird having no representative on the Atlantic coast is the "chaparral-cock," "road-runner," or *paisano*, as the native Californians call it. It looks much like a cross between a hawk and a hernshaw; long-geared, long-tailed, swift of foot, white, gray, and blue, with a bluish topknot and long bill. Though generally deemed unfit to eat, it really is one of the fattest and finest-flavored birds we have, in spite of its diet of centipedes, lizards, and scorpions. It is an interesting bird, easily tamed, and may be made a great pet. It is quite harmless, and is rarely shot, except by foolish tourists who think it the proper thing to murder everything they see. The common story about its killing rattlesnakes by surrounding them with lobes of prickly-pear, or putting balls of cactus in their coil, so that in striking at them they strike themselves, I have found, upon most diligent inquiry among Indians and Mexicans, to rest upon about the same foundation as the old story about raccoons catching crabs by dipping their tails in the water, and when they got a bite jerking them out before the crabs could let go.

The snipe-plover and waders generally known as "hay-birds" are well represented and are very abundant, with several varieties very rare, if not entirely unknown on the Atlantic coast. Nearly all the cranes and herons are common, except the great white sandhill or whooping crane, the long white-plumed night-heron, and the common green heron, which seem to be missing. Among the water-fowl the wood-duck, the blue-winged teal of the Mississippi Valley, and the black duck of the Atlantic coast are absent; but their places are supplied by birds extremely rare, if not entirely unknown, on the Atlantic shores. There is a blue-winged teal here, but different from the Western blue-wing. In place of the latter is the cinnamon teal, very common in all the little inland ponds and streams. His whole body, from the blue tail feathers to the bill, is robed in rich, glossy cinnamon, beamy as the bronze of a wild turkey. The wings are a gamy gray with sky-blue bands upon the top which flash brightly in the sun as the bird springs from the water. The black brant (*Bernicula nigricans*, and not the common brant, sometimes called "black brant" by way of distinction from "white brant") is found only in the Bay of San Diego, and False Bay, three miles above, skipping all the wild-fowl resorts and bays from there to Tomales Bay, above San Francisco. It is almost black in front, with a white collar around the jet-black neck, and almost pure white behind. It is very rapid in flight, being almost equal to a mallard-duck in activity, and is the gamiest by far of all American water-fowl. It never goes inland, and does not even fly over a narrow point of land if it can be easily avoided.

The wild pigeon is of the size and shape of the common house-pigeon, with broad fan-shaped tail and wings that strike when they fly. It is of a soft lavender, brilliantly glossy on the breast and neck, with eyes set in golden rims, and has a delicate little white collar around the neck. It is rarely found below four thousand feet, unless driven lower by heavy snow-storms, though it may descend lower into the deep cañons to breed.

The condor, which is quite as often called "vulture," is generally seen only in the high mountains, though it used often to be seen in the lowlands before their settlement. In shape and appearance it is much like the common buzzard, but is nearly black. The gray band on the under side of the wing is on the opposite side from that of the buzzard. It is the largest bird in North America, "rivaling in size the condor of the Andes," according to Dr. Coues. Its spread of wing is as wide as ten and a half feet, and it weighs from forty to eighty pounds, according to the time of weighing—before or after dinner. Like the condor of the Andes, it sometimes gorges itself to such an extent that it can hardly fly; and in days gone by, when not too wild to approach near enough, it has been lassoed by a sudden dash with a good horse. A friend who had a tame one that had been caught in this way told me it averaged a sheep a day. It is quite certain, however, that they can go many days without anything to eat. The condor is the most graceful sailer of all American birds; far more so than even the frigate-bird. In the high thin air above the highest mountains, it spends hours with outstretched wings without making the slightest motion that can be detected, even by the strongest glass, and it probably spends the whole day without resting upon the earth or flapping its wings in the sky.

CHAPTER XIII.

THE INSECTS AND REPTILES.

SOUTHERN CALIFORNIA is the land of insects almost as unique as are its flowers. Many kinds are to be found in any year, while others appear—in any numbers—only in years of sufficient rainfall to make the growth of vegetation luxuriant.

Ants abound from sea-coast to mountain-top; from the tiniest little red ant that ever penetrated the fittings of a sugar-bowl to a black ant in the mountains nearly as large as a honey-bee. Between black ants, red ants, flying ants, and tree ants, there are some twenty-five or thirty varieties, nearly all different from those of the Eastern States. Occasionally a tree is so full of them that if a mother grizzly bereft of her cubs were raging in one's immediate rear it would be a serious question whether to climb the tree or the bear; but the great majority of trees are free of them. They are easily kept out of houses, and trouble no one but the careless camper who does not look out for them.

The wild bee was unknown here before the Americans introduced the common bee. Since then, the wild one has become abundant from escaping swarms. There are at least a dozen kinds of wasps, from a delicate little blue one, not half the size of the common wasp, up to the large tarantula wasp, and running through all shades of color from the golden-banded uniform of the "yellow-jacket" to red, gray, steel-blue, and black. The tarantula-wasp is nearly two inches long, with body of deep brilliant blue and wings of deep orange, and it shines like a flake of burnished metal as it drifts about in the sunshine. It has a fearful sting, but, unless the wound be pinched, hurts nothing but the tarantula, which it quickly kills. The humble-bee is of two kinds; one very small and the other very large, both of almost a pure black, and both very rare. The large one lives almost entirely in rotten wood, and hums like a deep-bass reed. A small, stubby little thing, clad in gray fuzz, with a bill nearly as long as its body, and looking more like a cross between a bat and a humming-bird, hovers around the flowers with a sound pitched away upstairs on the scale, and, like a humming-bird, sips his honey on the wing without alighting. Another nearly as large as a humming-bird and quite as noisy of wing, appears on warm evenings in spring, buzzes around the flowers, and takes the honey after the same manner. But this latter has no sting, and neither one belongs to the bee family.

The tarantula is found only in a few places, and only in the lowlands. There are two kinds, black and brown. The largest are nearly two and one-half inches long by one and one-half wide, with long, thick curved legs, and body low hung so that the curved part of the legs is above the back. It looks like an immense spider. The body is covered with short hair, and the whole forms about the most repulsive-looking thing imaginable. They make nests in the ground in a perpendicular hole several inches deep, lined with soft white stuff of silky appearance and covered by a trap-door with a perfect hinge. They have two black curved tusks in the upper jaw, long and sharp, which they can set through a green twig the size of a lead pencil. The bite of these is said to be as bad as that of the rattlesnake, though I have never heard of any one being bitten by them. They are slow and sluggish in their motions, and generally, if not always, grasp a thing with their feet before biting it. They fall easy victims to the large wasp, which stings them in the back.

The *pinacate*, a large black, long-geared bug, is abundant almost everywhere. Then there are beetles of gray and brown and yellow, beetles big, beetles little, beetles infinitesimal, beetles with bands, and beetles with stripes, and beetles sharded with gold and green, purple, blue, and crimson. And there are delicate little bugs no bigger than a pin's head, of the brightest carmine, shaped like beetles but soft and wingless, and others soft and shiny as sky-blue silk.

Dragon-flies of sky-blue, steel-blue, red, and other colors, double-winged and single-winged, shine in the sunlight; and so do butterflies of all colors and combinations of color, and of all sizes from one about as big as the smaller bat to some scarcely bigger than a mosquito. The millers are almost equally abundant and varied. Grasshoppers are rare except on the larger plains, where they sometimes become a burden. One kind is nearly as long as the small sparrow, and can fly many miles, but is not the locust of the eastern slope of the Rocky Mountains. I have noticed but one locust here, and that is small and not at all abundant; the seventeen-year locust being unknown.

Of water-bugs there is a very varied assortment. There are some about an inch long that look almost exactly like little turtles. They carry their eggs upon the shell of their back, and it is often covered with them thickly massed together. It is impossible to understand how the same bug that bears them could have laid them; as they are deposited in orderly arrangement. Besides these are numerous small varieties, some like the black circling bugs often seen East, and others that seem peculiar to this section.

The insects annoying to man are not as abundant as in the East. The cockroach and bed-bug are almost unknown outside of the cities; though the bed-bug is found in the mountains in houses built of the mountain-pine, and is found beneath the bark of the pine-trees. I have never cared to test them, but am informed that they are the very same as those of the Eastern hotel. A similar bug is found as a parasite upon the mud-swallow that builds a jug-shaped nest. It is said to enter houses; but though I have lived where hundreds of swallows built under the eaves, I never have seen any. The bed-bug is certainly extremely rare in all the lowlands: many of the native Californians and old residents have never seen one. This is all the more strange because they are found in parts of the North and in Oregon in abundance. It is certain that they have often been brought into the city of San Diego from the high mountains fifty miles east, but none can be found in San Diego. The common attempt to explain this by the use of redwood for building is a failure, because they do not increase in any houses in the lowlands, and because they do live in redwood in the North. There are at least ten kinds of mosquitoes, but many varieties do not bite at all. Others bite most savagely, and are even quicker than flies to dodge a well-aimed and spiteful slap. All kinds are very rare except where produced by excessive shrubbery and water-tanks or lagoons. In most places they are entirely unknown, and one may travel for days in summer without seeing a mosquito-net anywhere. The blue-bottle fly is a great nuisance; but horse-flies are very rare except for about four weeks in a spring of luxuriant vegetation. Houseflies are as bad here as anywhere; but, with the exception of a little midge often found along river-bottoms, there is nothing of the gnat or biting-fly variety to trouble one in hunting; except in the higher mountains, where a large biting-fly is sometimes found, though it does not compare with the Eastern black fly as a pest.

The flea is the only insect that is really a pest. The variety found upon hares and rabbits does not bite persons, though looking precisely like the other. The flea found on dogs and cats, and around ill-kept houses, or old hog-pens or chicken-houses, is a savage wretch that never wearies of anything except the old place. He takes a new spot every second, and keeps on, until stopped by Persian powder, or being caught. Fleas are, however, found only where people or animals live or have lately lived, and are not found at two hundred yards from there. Most people they do not bite, being select in their tastes. They nearly all disappear in winter. The wood-tick is found in the brush, but is different from the Eastern tick, and hardly ever bites a person. Two kinds of scorpions are found, but they are not at all abundant. The sting is said to be little worse than that of a hornet, though I have never known any one stung by them. Two or three kinds of centipedes are also found—hideous-looking things with a hundred legs on each side, each leg terminating in a hard, sharp point like the tail of a scorpion. Some of them are six or eight inches long. Some are nearly white, others a greenish lead color. The touch of their feet upon bare flesh is said to be incurably poisonous. It is easy to imagine that it may be; but I have never been able to get any reliable evidence of it, though making many inquiries. They are not at all abundant, and I have been unable to find any positive case of any one being injured by them, and it is possible that there is some imagination in it.

The reptiles are well represented, though none of them can be considered troublesome. Lizards of all sizes from eight or ten inches in length downward are very abundant. Some of them are ashy gray, some brown or nearly black, others green, others a bright blue with metallic luster. They hang on the side of big rocks and look at you, or run rustling into the chinks if you come too close, but are all innocent and harmless, and rarely enter a house. The tree-toad is not found here. The common toad is very rare, but one much resembling it is more of a frog, breeding in the water, though often going far away from it. The large bull-frog is rarely seen, but small ones of the gray or brown varieties are abundant after the rains come. The horned toad (or more properly the horned lizard) is a curious and harmless little thing. It is covered on top with quite a hard coat of mail, and is a rapid runner.

All snakes hibernate here even in the warmest belts, where mild hoar-frost is almost unknown. They remain in the ground nearly five months. When the winter has been very dry and vegetation is short, they are not abundant in the spring, and it is evident that many do not come out at all. A short, thick, lead-colored snake, about eighteen inches long and very rare, is said to be poisonous, but I know of no case of any person being bitten by one. It bites most savagely at a stick, but is so very rare that it can hardly be considered dangerous, if it is so at all. Besides this one, the only poisonous snake is the rattlesnake. Of these there are two kinds. One is of dark slate-color, and is rarely over three feet long. The other is a reddish-brown that reaches four and a half feet in length, and is often as thick as a man's arm, and well calculated to make one jump when suddenly met in the path. Fortunately both kinds are very sluggish, the red one even more so than the other.

At least a dozen times I have either been about to step directly on one, or have stepped over it, or else have set my foot directly beside it. In no case have I been struck at by them, though I have made them strike very savagely at a stick. When they do strike they are as poisonous as any snake, though it is very seldom that any one is hurt by them. They are not abundant, and one may hunt for weeks without seeing one. Hunters take no precautions against them, and children run bare-legged everywhere through the bush without thinking of them. Judging of the danger by the proportion of people injured—which seems the only rational method—it amounts to little. The whole number of persons in the whole southern half of the State (where thousands sleep all summer on the open ground) injured by snakes and poisonous reptiles, animals, etc., in the last ten years is not equal to the number killed by lightning alone in one year in one county in many Eastern States, to say nothing of cyclones, mad dogs, etc. The Californian would gladly take twenty times his present share of snakes, scorpions, tarantulas, centipedes, and earthquakes rather than give up his present immunity from wind-storms, hydrophobia, and lightning. I spend five times as much time in reptile resorts as the majority of residents do, and see about ten rattlesnakes a year—a very low average for a snake country. In ten years I have not seen over twenty centipedes and scorpions. In over two years, in the aggregate, of camping out, always sleeping on the ground and nearly always without a tent, I have never had a snake in camp; have never had fleas, mosquitoes, ants, or animals of any sort to trouble me. I never had a centipede in camp, and but one tarantula. It may, however, be proper to remark that that one was in my blanket. During the same time I have had but two visits from scorpions. It may be proper, further, to remark that one of these was in my bed and the other was getting there as fast as his peculiar mode of locomotion would permit.

The real facts about rattlesnakes, and the remedy for their bites, are very important for the hunter and tourist to understand. And there is scarcely any subject about which more nonsense is afloat. Two points generally accepted as sound are utterly false: First, that the rattlesnake always gives warning before striking. It generally does, but the exceptions are so numerous as to make the rule worthless to depend upon. It is well never to put your hand down into grass or brush, or among rocks or into a hole, without examination, and to be cautious when you go to a spring to drink. Second, that they cannot strike unless coiled. This is an absurd mistake. The snake does generally strike from coil; but can not only strike for nearly half its length when uncoiled, but can swing around in a semicircle and strike too quickly for one to dodge. In fact, its stroke is always too quick to dodge if one is within reach of it. They are dangerous even with the back broken, and can strike quite a distance when apparently dead. He who plays with a live one to see it strike should have, for absolute safety, a stick double the length of the snake, especially if below the snake on a hill-side.

There are numberless popular nostrums for snake-bite, each with its train of marvelous cures. The only effect of these is to mislead persons upon a vitally important point. There is absolutely nothing that can be given internally that will neutralize the poison; nor will any ordinary acids, alkalies, or other things that can be quickly obtained have any effect upon the wound. Powerful corrosive acids and perhaps caustic potash might, like the red-hot iron, destroy the poison if brought into contact with the whole of it; but in the puncture made by the snake's tooth they cannot reach it quickly enough. The secret of the alleged cures is the simplest thing in the world. A dog is bitten and dies in an hour. Another is bitten, and, after a few days' sickness and swelled leg, perhaps gets well. Nothing was done with either dog. Had the second dog had tobacco, or gunpowder, or a piece of the snake, or a split chicken, tied on the wound, or any drug applied, or been dosed with whiskey, or blanketed with mud, etc., etc., his recovery would have been attributed to the remedy. The sole thing that saved him was the fact that he did not receive enough of the poison, or else received it where the circulation was so feeble and sluggish that his vitality could overcome it as fast as it could spread toward the heart. A bee-sting that may kill a mouse has little effect upon a man; and an elephant might stand a snake-bite that would kill the strongest man. The vitality will overcome it in time if the poison is not introduced too rapidly.

The poison does not, as is commonly supposed, issue from the point of a rattlesnake's tooth. The point is solid, and the poison-duct issues from the upper side some distance from the point. The skin may be punctured so as to draw blood, without the poison-duct touching it. Suppose now a person is struck through clothing or leather, or struck where the skin lies close against the bone and no veins of any size are touched. In the first case the poison-duct may not reach the skin at all, or the tooth may be withdrawn before any blood can issue and come in contact with the part of the tooth outside of the skin. In the second case the poison-duct may reach the skin and even pass into it a little, but not below it, and the poison reaches nothing but the small veins of the skin. In the first case there may be some swelling, but the patient may recover without any remedies at all. In the second case the poisoning, light as it is, may still be severe, and the patient's vitality may need all the bracing that can be given by alcohol, ammonia, beef-tea, etc. If of good constitution and properly treated, in this way he may recover. But if struck deeply in a large vein, or even in a very medium-sized vein, there is no power on earth, except instant amputation or possibly burning with a red-hot iron, that can save one. Whiskey, ammonia, and such things have no effect whatever upon the poison itself, but act only as stimulants to keep up the action of the heart, and enable it to overcome the sedative effect of the poison. When given in too large doses, whiskey may become a sedative, and thus aid the very object it is designed to prevent. If the bitten part can be blown off with the gun, it is better to do so at once, and place confidence in remedies afterward ; for, under any circumstances, a bite is a most serious thing. The twisted bandage above, and sucking the wound, will help in case of a light wound, but will fail with a full injection of the poison into a vein of any size.

There are many other snakes found here, some of them very alarming to look at, but all perfectly harmless. The "red racer" is a long, lithe snake of bright-red color, with a black head, and of wonderful speed. Then there are snakes with colors of metallic luster, and others of dull dark brown or dark gray. There are long striped snakes like the garter-snake, and long spotted ones, and little ones of a shiny blue or green, I know not how many varieties. All these are useful as destroyers of gophers, young ground-squirrels, mice, etc., and are rarely killed by any one.

CHAPTER XIV.

RURAL LIFE.

CITY life, whether high or low, is about the same in Southern California as elsewhere. But country life is quite different from anything that most Eastern readers are accustomed to see or read about. Within thirty years it has had four different phases, and, though they are rapidly changing, all may still be seen.

The old Spanish residents depended entirely upon stock-raising. They used so little money that the sale of hides and tallow gave them all they needed up to the coming of the Americans in 1849. Some raised a little grain, generally by irrigation, or on spots of wet ground, which was afterwards trampled out by horses and winnowed by tossing it up in the breeze. But these crops were very trifling, and on account of the unreliable nature of the winter rains the land was generally deemed unfit for anything but a stock-range. In addition to this idea came the demand for cattle, caused by the coming of the hungry Argonauts; and as it cost almost nothing to drive them north over plains covered with rich grass, that had nothing but the elk and the antelope to support, cattle-raising became so profitable in the South that it was many years before even the Americans attempted anything like farming. The first American settlers lived much as the Spanish did. Their herds ran at large over a thousand hills and dales, and their only work was to ride about and look after them. The new-comer's table, like that of his predecessor, was laden with meat, beans, peppers, and wheaten cakes, with coffee, tea, and chocolate; but milk, butter, vegetables, fruits, etc., were almost unknown luxuries. To have milk would require a pasture fence; or else a cow had to be picketed out and attended to; or one had to be lassoed or driven into the corral every day. During milking her tail and hind legs always had to be lashed together, for the old Spanish long-horned cow was constitutionally opposed to being milked in any other way. There was something touchingly human in her vigorous demand for this ceremony, and in her resignation when it was duly performed. She had most violent objections to being touched for any other purpose than the tying. To that she submitted with the purest serenity, and then was willing to be milked by a child. But all this was such a nuisance that butter and cream, instead of lubricating the machinery of life, materially increased the friction. The fencing and protection of the garden against the numerous enemies that concentrated their forces upon such isolated spots during the long summer, when everything from a cow to a cabbage-bug is crazy for something green, made it much easier to go without vegetables than to raise them. For similar reasons it was more convenient to dispense with chickens, hogs, and other smaller matters than to take the trouble necessary to raise and keep them. Hence the ranch-house of thirty years ago was often a solitary building on a bare-looking plain. Its whitewashed walls shone afar through the waving heat, but around it was often no sign of an orchard, garden, or anything green except the little grass around the wet spot formed by the spring. Often there was no barn or any kind of outbuilding, some room in the house or the spacious porch being used to shelter the ranch tools and machinery, which consisted only of saddles and bridles, lariats, branding-irons, and spurs; while all the animals ran at large except one or two horses picketed out, which were used to catch or drive up others. The corral, a little yard into which stock is often driven when it is necessary to catch some of it, and the house, formed about all that was to be seen; and the whole, at a distance, often looked like a rock or two on a shimmering desert.

Yet there was comfort there as well as profit. The heavy walls of adobe, or sun-dried brick, made warm rooms in winter nights and cool ones in summer days, with much more space than is found in the modern house of the American, who is above living in mud—unless baked, in which case it does not hurt his pride—and had the advantage of being fire-proof. Expenses for taxes, clothes, and luxuries amounted to little; and in spite of the owner's love of *monte* or poker, in spite of the losses of bad seasons, these ranchmen of thirty years ago, both Spanish and American, could probably show more solid coin made out of the ranch, with less expense, than any other ranchmen in the world.

Suddenly it was discovered in the North that wheat would grow in California without irrigation or without being sown in a swamp, and this, too, in face of the unanimous opinion among the gold-hunters that California was of "no use for farming." It was some time before this was fully believed, and even then it was only admitted that it might be done in the North, for the South was certainly of no use except for stock. Gradually the experiment was extended farther south until it was found that even at the Southern line stupendous crops of wheat could be grown, even on the barren-looking table-lands, with a rainfall considerably less than was required for a good crop in the North, and consequently very much less than would be necessary in any State east of the Sierra Nevada. This turned the heads of many who immediately thought it was the greatest wheat region in the world. Wheat-farming began, and laws were passed which virtually destroyed the free range that cattle and horses had hitherto enjoyed.

Meanwhile, attracted by the success of cattle-raising, the "sheepman" arrived. Many sheepmen were mere wanderers, having no fixed home, and scarcely any property but a wagon and camping-outfit and a large band of two or three thousand sheep, or even more, which they drove from place to place, with a decided preference for doing all their tarrying, delaying, shearing, etc., on private property instead of on public land. Some had fixed homes. And such a home! The epitome of all that is nasty, dreary, lonely, and desolate was, with a few rare exceptions, the Southern California sheep-ranch. The heavy bands of sheep fouled the clear springs of water, and, driven over the ground when wet, trampled it hard, and cropped off and stamped out the beautiful and nutritious alfileria and burr-clover before they could seed, leaving rank weeds to spring up in their place. For two or three hundred yards around the ranch-house the ground was generally bare of everything but weeds; and even the birds deserted it, except blackbirds—the only animal here that does not detest sheep—and buzzards, ravens, and crows, that sat around on the corral fence waiting for another sheep to die. The number of times such an owner could, upon some pretext or another, drive his band of sheep across a neighbor's land, in years when feed was short, without being shot at, forms the most remarkable chapter in the whole history of human patience.

About this time it was discovered that the wild flowers of California, and especially those of the South, produced the finest and clearest honey in the world, with the remarkable feature of never causing colic, and it was but a short time before the "bee-ranch" was an established institution. The bee-keeper generally took a small piece of government land in some little valley surrounded by flowery hills, and lived on rabbits and honey in a shanty of rough boards, which was not half as comfortable as the adobe of the Indian, though costing twice or thrice as much. But he had an apiary of from one to six hundred hives of bees. The honey crops for the first four or five years were beyond all conception of Eastern bee-keepers; and as honey bore a good price, immense profits were made upon a trifling outlay. Some idea of this may be gained from the shipment for 1874 from San Diego County, then the most unsettled and unknown of all the Southern counties, which amounted to two million and seventy-five thousand pounds, while much was left in the hives and made during the summer by the bees after shipping-time. Some of the work of skilled apiarists in very favorable seasons is quite incredible, but is as well attested as anything relating to California—such as starting in January with one hundred stands of bees, increasing them by swarming to four hundred, and shipping by the first of July forty thousand pounds of the finest and whitest comb honey, an average of one hundred pounds to each hive *as increased*. This ratio has been often equaled.

Wool, too, bore a good price, and the clip was heavy with grease and dust; while crops of wheat that excelled anything that Minnesota or Dakota ever produced were not uncommon. The result of all such success, which, for various reasons, was largely temporary, had a baneful influence upon all sorts of Californian farming; and its influence, though gradually dying out, may still be everywhere seen. Nine tenths of successful farming the world over is simply turning one's own labor and that of his family into food and clothes, making perhaps enough more to pay taxes, go to an occasional "show," buy tobacco and a few cheap "notions;" all the gain, if any, outside of this being in the increase in value of the land. But under the influences mentioned above, farming, or "ranching," as it is here called, was conducted not to raise one's food, but to make money. Instead of being a mixed industry, with a little of this and a little of that, so that if one foot slips another holds, it became a specialty. The labor, money, and anxiety of the whole year were staked upon the success of some one thing, such as wool, wheat, honey, oranges, or something else. Not only this, but as it was done to get rich, it, of course, had to be carried on upon the largest possible scale. And this, of course, could not be done without hiring labor and buying machinery; both of which were very expensive at this distance from manufacturing centers. All this is too much like gambling. The outlay is a certainty; the income an uncertainty. Of course it often wins. And so one does at roulette or *trente et quarante*, if the game be honestly played.

This style of farming was very contagious. The small farmers, who began to come in, imitated the larger ones, and farmed, not for something to eat, but to raise something to haul one or two days' journey to market to sell, perhaps, at a low price for money with which to buy provisions at a high price to haul all the way home again to eat. Nor was this the only way in which they imitated them. The man who had only forty acres of grain could not bend his back to the cradle or flail, as his grandfather had done who supported a large family on the barren hills of New England, or his father who pioneered the forests of

Michigan or Wisconsin; nor could he even trudge along behind a single plow as they did. He must have a fancy plow that he could ride upon as well as his neighbor who farmed a thousand acres; though it cost ten times what the other plow cost, and did its work not half as well. A header being too expensive to keep for a small farm, he had to hire his grain cut with one, paying $1.25 an acre to see from ten to twenty per cent of his grain wasted with the ponderous machine, and the value of as much more eaten up by the army of horses and ravenous hands that were required to run it. The general principle upon which all farming was done, from the highest to the lowest, was very nearly this: do nothing yourself that you can hire any one else to do; make no machinery at home, and raise nothing to eat that you can buy. Ask any one of them the reason of this, and you would be told that a man's time is worth too much to spend at such things; in other words, such trifling economies are beneath the notice of a genuine money-maker, such as the average farmer imagined himself to be.

In addition to this, the differences of the seasons and the peculiarities of nature made some branches, especially such as grain-raising, the merest gambling. When there is sufficient rain in winter, grain sown upon unplowed ground, even an old hard road-bed, will, with only one third of the amount of seed that is needed in Minnesota, yield a heavy crop. So heavy is the "stooling" or suckering-out during the cool nights of winter that forty or fifty stalks growing from a single kernel are not uncommon in such years. Over one hundred have been found, and the writer himself has counted sixty-six. In seasons of insufficient winter rains, a profitable crop upon the greater part of the lowlands was impossible, even on the best-plowed ground. The conclusion was obvious. Plant the largest amount of acres possible, so as to hit it if the season is wet; if dry, you will get nothing anyhow; in other words, *bet upon the season.* The consequence was the scratching in with a light broad cultivator or a harrow, or even a drag of brush, of thousands of acres at no more expense than one could seed as many hundreds of acres well. The reasoning was plausible enough to run away with nearly every one. But it was fatally defective, because—

First. It was not true that in a dry season one will get nothing. Except, perhaps, in such rare years as 1864 or 1877, the farmer who puts in grain, as is done in New York or Pennsylvania, will always get back four or five times his seed; and as the straw in such years is very short and ripened in dry air without rain or dew, it is as good as the best hay, and he gets enough from that alone to pay more than the cost of harvesting it.

Second. Such farming ignored the half-and-half years when good husbandry tells here as well as anywhere, and it also allowed the land to become so foul with wild oats, mustard, cheat, etc., that in a few years the crop was greatly reduced.

Third. Such farming would be a failure in any country in the world. And even in California, a good crop in five years out of ten would not sufficiently offset an almost total loss in the other five.

This principle was extended to many other things; and the fact that Nature here favored the farmer in many ways in which she never favored him in the East, instead of making him a better farmer, only made him a worse one. That he had an almost endless series of fine days before him in which to do anything was only a reason for putting it off until probably it never was done at all. That he was little troubled with weeds that quickly choke out the tallest corn in Illinois and the other prairie States, instead of enabling him to raise better corn, only taught him that there was no need of plowing corn here. Hence corn, potatoes, and other things, when he planted them at all, he put in so that they could not be plowed either way, or, at best, more than one way. Possibly he cultivated them once by running a scratching-machine through them, the word *cultivate* being here derived from *cultivator;* that is, to *cultivate* land is to run a machine known as a *cultivator* over it—once. But in most cases he never touched the land after planting it. If the winter rains were heavy enough, or the crop were on wet bottom-lands, he got a fair yield in spite of his neglect. If he did not, he charged the loss up to the season, and never to himself. The same thing was seen in the majority of the fruit-growers. That trees would grow and bear good fruit, though stamped into a small hole in hard ground, was only a reason why they should be thus planted instead of a reason why they would do better than in the East if properly planted.

Such and analogous influences made the average farmer of Southern California the most shiftless, slovenly farmer on earth, infinitely worse than the peons of Mexico, when we consider his opportunities for knowing better. He is passing away, but too much of him and his work still remains. In his place is coming the old Eastern style of diversifying industries, and working the ground more thoroughly. A little of this has indeed been done for many years with results quite unfailing. For many years there have been a few—a very few and far between—of as good and careful farmers as any country ever had. And they live much better, have more money and time to spend, than the same class of farmers do anywhere East. But they work and save just as they would in New Jersey or Ohio. Of late they are finding imitators, and these in turn find others; and the whole country is learning that, with the same farming that pays in Pennsylvania, a better living can be made in California; and that without it, it is never much better, and often worse.

Fruit-farming which is now taking possession of the land has passed through much the same stages of development, though far more rapidly. In the larger districts, such as Riverside, San Bernardino, San Gabriel, Pasadena, and other parts of Los Angeles County, as fine and careful work is now generally done as ever was seen. The man who plants an orchard or vineyard, and then leaves it to take care of itself, has about disappeared from there, and even in San Diego county he is growing yearly scarcer. In Los Angeles and San Bernardino counties, one may see hundreds of orchards and vineyards where in summer the plow and the cultivator never rest, and where one may walk for miles without seeing a weed. When all of Southern California discovers, as many have discovered, that the office of cultivation is not solely the killing of weeds, and that summer is really the time to cultivate instead of the time to stop cultivating, the land will be a sight that no other country can ever show. Nowhere else does nature return more for so little labor, or bring trees and vines so quickly into full bearing. The only trouble is that that *little* is considerably short of *enough*.

CHAPTER XV.

THE STORY OF THE PLOW.

THE history of the discoveries by which a State that but thirty-five years ago was pronounced worthless for farming has, with much of its best land yet untilled, risen to the very foremost rank among the productive States of our country, cannot be other than interesting. Those discoveries are not only worthy of notice as a strange chapter in the history of progress, but are most important in their bearing upon the future of vast tracts of country in old Mexico, New Mexico, and similar climates that are now deemed worthless for anything but stock ranges. And many a farmer, gardener, and horticulturist, even east of the Mississippi, may learn something from them.

The judgment "worthless for agriculture" was not confined to statesmen at Washington like Daniel Webster, who had never seen California, and possibly knew little of farming anywhere. It was not hastily given by a few trappers or explorers and quietly acquiesced in without question, as was for years the name of "Great American Desert" given to the plains of Kansas and Nebraska, where no one then cared to stay longer than to chase the buffalo. It was calmly and deliberately given by hundreds of practical farmers among the gold-seekers, who were charmed with the novelty, beauty, and climate of the new country, and who would have been only too glad to see some encouragement to remain and make a permanent home. But they could find nothing, either in their own experience or that of the Mexican residents, to cast a ray of hope; and for a long time the sole idea of the Argonauts of '49 was to make a fortune in the mines and return East again to enjoy it.

All this was quite natural. The old Spanish residents rarely attempted to raise anything without irrigation, except upon wet or swampy lands, and many irrigated even there. A drouth of only two months was in the Eastern States quite fatal to profitable farming, and here was one of six or seven months in every year. The nights in winter were a little too cold for good growth. Even the winter rains sometimes failed almost entirely; and often when there was a winter of sufficient rain, its distribution was so capricious that two or three months of warm and cloudless days were at any time liable to dry out a crop in the very middle of what was called the "rainy season."

After a few years it was discovered that wheat and barley would grow and mature even after the rains had ceased, just as the native wild oats did. But this, of course, would not be the case with things that had to grow during the summer, and especially with such things as corn, potatoes, etc. After a time it was found that even corn and potatoes could stand the long dry summer; but then of course they must be planted upon land having water just below the surface. So long as damp bottom-lands were plenty, everything that was to grow during the summer was put there as a matter of course, except where there were facilities for irrigation upon drier ground. Even in the moist, rich valleys of Sonoma and Napa, now about the most certain parts of the United States for summer crops, it was for many years an unquestioned doctrine that wet bottom-lands or irrigation—both combined, if possible—were indispensable for everything but grain.

All this was in the North, where there was nearly always rain enough in winter to soak the ground thoroughly at least once, where the wet season is much longer than in the South, and where there is much less dry weather and bright sunshine to dry out the ground and wilt vegetation. In the South there were a few places where the land was damp with subterranean water, and there was also an abundance of flowing water that could be turned upon it; and here some ventured to plant a few vineyards and raise a few potatoes or watermelons, all of which were faithfully irrigated. But to plant anything anywhere else would have been deemed madness, even in years when the ground was thoroughly wet, to say nothing of those years when it never is wet ten inches deep.

While damp bottom-lands and water for irrigation remained plentiful and cheap, these doctrines were accepted axioms of California farming. But as settlers increased and wet lands and running water became scarcer, first in the North and then in the South the farmer began to venture with his plow upon higher ground. Cautiously and slowly he felt his way farther and farther from the subterranean water, at first upon land having water but a few feet from the surface, though dry upon the top; then timidly up the slopes. But many a year rolled around before any one dared strike the plow into a surface forty, fifty, or a hundred feet from water below, and risk his labor and seed upon the result.

It is easy to be wise when the hour of trial is over, and the cold eye of experience can examine results at leisure. Yet one can hardly consider without some surprise the length of time that the direct application of water to the roots of vegetation, either by irrigation or by the roots reaching down into it, was in Southern California considered indispensable. Many a man had in his Eastern home seen corn march triumphantly through long summer droughts, with its banners all green and untwisted, solely by the aid of the plow and the hoe. Yet as soon as he reached California he forgot it. Many a one had seen one corn-field bowed beneath a wealth of golden ears, while another beside it, on equally good land, yielded only a scanty crop of "nubbins" and "hog-corn," the sole difference being good and bad cultivation. All of them when boys knew that the place to find moist ground for worms with which to go fishing, in dry times was not in the meadow or near the spring or along the brook, but under the sawdust behind the mill, the tan-bark near the tannery, or the manure behind the barn. Yet all this they forgot, and thought that water alone could keep ground moist. That a mulch, almost as effective to retain moisture as loose sawdust, could be formed from the top-soil itself by plowing and pulverizing never occurred to them, and was found out only by the hard knocks of obtrusive experience; and it is doubtful whether this chapter is not more interesting as a history of human dullness than of human progress. If four or five inches of sawdust will keep ground moist for two months under a broiling sun, why, if kept loose, will it not do so for four or six months? And if loose top-soil will serve the same purpose, what more is needed than to keep it loose? What could be more obvious than the answers to these questions? Yet nothing did man ever learn more slowly. And even now it is but half understood by many who do not plow half deep enough and stop cultivating when summer comes because the weeds cease to grow, whereas it is the very time when the top-soil needs the most constant stirring. It is better even to let the weeds grow all winter and plow all summer than to stop with the last rain, as many do.

This discovery is now much over-rated by many who see in it the only chance to sell dry lands. Fairly stated it amounts to this: Four-fifths of the upland soils, when once fairly wet to a respectable depth, will, by good plowing and constant stirring of the top-soil to a depth of five or six inches, retain during the longest and hottest summer and fall moisture enough up to within four or five inches of the top to raise most kinds of deciduous trees, all kinds of grapes, with many things like corn, potatoes, etc., and keep alive and growing almost any kind of deep-rooted plant. The four or five inches of loose top-soil will be dry as an ash-heap, but below it the ground may be moist enough eight months after the last rain to pack in the hand. And this, one hundred feet or more from water beneath. On unplowed land just beside this the ground will by August probably be dry as a brick for ten feet in depth, though thoroughly wet three months before. Where water is within a few feet of the surface such stirring will bring up the moisture from below, so that such soils may sometimes be made moist even without a drop of rain to start with. It is also probable that it absorbs moisture from the air at night.

The application of this principle, even in quite a crude form, has made possible the settlement and profitable cultivation of millions of acres that not twenty years ago were considered fit only for stock. Twenty-five years ago almost every vineyard and orchard in the State was upon the lowest ground obtainable, and even there was kept in a chronic state of soak from a ditch. To-day most of the vineyards are on high dry lands and not irrigated at all for wine-grapes; while peaches, apricots, etc., are grown in thousands of places without water, and corn-crops of thirty-five and forty bushels to the acre have been raised on land fifty feet or more from underground water on a rainfall of only fifteen inches, every drop of which fell before the seed was planted. I am perfectly aware that this corn story seems monstrous, but it is as true as anything in this book. To do this well requires work, but no more than the Kansas or Illinois farmer has to do to keep his corn from being lost in weeds. Its effects upon grain are quite as striking. If a piece of ground be well plowed in the spring, allowed to lie fallow during the summer, plowed again and pulverized late in the fall, and sown, it is quite certain to yield a crop of grain. The moisture thus retained during the summer will make a growth which will well repay the harvesting in three out of four of what are known as dry years. And even in such rare ones as 1877 or 1864, if the crop should be too light to be worth cutting, it will still be large enough to be well worth pasturing off with cattle or hogs, or cutting for hay. This summer fallowing, if properly carried out, makes nearly all crops a certainty; and though it keeps the farmer from working more than half his land at a time, in the end it is fully compensated for by keeping the land clean of weeds and preventing its exhaustion by cropping.

This state of affairs is to-day almost undreamed-of outside of California. On the Rio Grande, in New Mexico, you may find, not Mexicans only, but Americans, drenching with water, in the old Californian style, vineyards on damp, loose bottom-lands not ten feet from water. Tell them that in California, with a lighter rainfall and a longer and hotter dry season, they are now raising larger crops of far better grapes on dry uplands, a hundred feet or more from water, without a particle of irrigation, and they stare at you as at an escaped lunatic.

Near Santa Fé and in the Pecos Valley and a dozen other places in New Mexico, and in hundreds of places in old Mexico, I saw in September, 1884, fields of corn that were planted on unirrigable uplands, in the hope of catching a wet season. The work was done in the style in which such a gambling kind of farming always is done, with the least possible risk of losing any precious vitality by work which might turn out to be thrown away in case the season should be dry. The ground was scratched about two inches deep,—in old Mexico always with a wooden plow,—the corn planted about twice as close as it should be, and so irregularly that any cultivation either way after planting was impossible. In all cases the evidence was positive that the soil had never been touched after the corn was planted. That year was in both those countries the driest known for twelve or fifteen years. Yet nearly all that corn was green even in the last week of September, all of it tasseled out, and most of it eared, though, of course, defectively. It was precisely what corn would be in New York or New Jersey with the same planting and the same neglect, better than much corn was at the same time in Ohio and Indiana, where there had been an extraordinary drought that summer, and better than corn similarly neglected would ever be in one of California's driest years. Is not the inference irresistible that if it had been properly planted and cultivated all summer it would have made, not a big crop indeed, but a paying crop?

Both the Mexicos, as well as Arizona, have a great advantage over California, so far as utilizing the rainfall is concerned, of having it in summer instead of winter. In California half the rain is sometimes lost by cold nights holding back vegetation, while dry winds and bright suns by day dry out the ground without increasing growth. For some strange reason, the higher we go above sea-level the easier it becomes to raise anything by cultivation alone. On the mountain-plains and table-lands of San Diego especially good crops of grain are raised upon a rainfall that twenty-five hundred feet lower would scarcely make a crop worth cutting. What little tillage of the soil there is on the highlands of New Mexico indicates plainly that the same rule applies there. The country around Santa Fé has about the same rainfall as that of Los Angeles, and the time will certainly come when large tracts of unirrigable land in New Mexico will produce even better than much of the unirrigated land of Los Angeles County.

In old Mexico the certainty that thorough cultivation will yet cover with prosperous farms millions of acres now considered waste land, because unirrigable, is far greater. On much, such as the Bolson de Mapimi, the rainfall is certainly too light. But there are millions of acres like those of the State of Aguas Calientes. Here the average rainfall for fifteen years is nineteen and a half inches, with a maximum of twenty-four and a minimum of twelve, nearly all falling from April to September, inclusive. This is a far better, steadier, and more reliable rainfall than the best parts of the Southern California lowlands have, and on these lowlands the minimum often falls far below twelve inches, while the maximum, if it passes twenty-four inches, may prove positively injurious. Millions of acres of the richest land in the world lie in Mexico under a rain-belt like this, and millions of it with subterranean water close to the surface. Suppose, now, we plow deeply and thoroughly a piece of such land in the latter part of summer, pulverizing it well after the last rains, so that it cannot bake or become crusted. No matter how deep the subterranean water may be, it is certain to remain moist all winter without a drop of rain, and be in perfect condition for the planting of the seed in April or May. The effect of twelve inches of rain in the next five months, accompanied by such cultivation as in Illinois would be necessary to keep the weeds from choking out the crop, is as certain as is the effect of the union of fire and gunpowder. Under the Mexican system the ground is as hard as a stone in spring. Two or three of the best rains are lost in getting it moist enough to plow and plant. The plowing is merely scratching with a wooden plow, and it is all planted too close, and never touched after planting. And yet the corn always grows and lives and often makes a crop!

This new principle of cultivation of the ground has made California one of the richest States in the Union, and will make it still richer, for its full extent is even here but half understood by the majority.

It will make possible thousands of prosperous homes in the sun-lands, where we now see only open plains or valleys. Yet it will be many a year before it does so. The ignorance upon this point outside of California is dense and all-pervading; so much so that an opinion upon the capabilities of any of the countries having a dry season by any one unacquainted with Southern California is absolutely worthless. From the Mexicans we can expect no better, because the intelligent people there never trouble themselves about farming; the whole of it being intrusted to the ignorant peons, who know little except to follow ancestral methods. But what shall we say of Americans like U. S. Consul Strothers ("Porte-Crayon"), who, in his report, says "agriculture cannot be carried on without irrigation," and recommends steam-pumping machinery to raise water in the valley of Mexico, where the subterranean water is hardly anywhere six feet below the surface, and where the records of the last ten years show an average of twenty-four inches, with a maximum of thirty-six and a minimum of sixteen, nearly all falling during the five best growing months? Like all the other Americans there, he blindly and without question adopts the opinion of the natives, who never use anything but a wooden plow, and use that solely to scratch up enough loose soil to cover the seed with, the ground two inches below remaining as hard as their sun-burned adobe bricks. But this idea by no means originates with the Mexicans. A very intelligent gentleman from Kansas, an ex-officer of the U. S. army, a polished writer, and extensive traveler throughout the West and Southwest, with whom I was discussing California last year, remarked: "Well, you may possibly make grape-vines and a few kinds of trees live without irrigation, but you never can make me believe that you can raise wheat without it." Yet fully ninety-five per cent of the enormous wheat-crop of California is raised without it, the irrigation for grain being limited to a few small tracts in the San Joaquin Valley, where the rainfall is very light and river-water is abundant and cheap.

CHAPTER XVI.

THE PERFECTION OF AGRICULTURE.

MANY a little settlement that now raises anything of consequence without irrigation flatters itself that it alone has made the discovery that water may be dispensed with. And many a person having unirrigable land to sell has worked himself into an honest belief that he is actually better off without any facilities for irrigating. But the opinions expressed by such when no possible purchasers are within hearing is not always the same as the one they deliver on the street corner.

There is no such case on trial as that of Cultivation *vs.* Irrigation, any more than there is of Vegetables *vs.* Meat. And there never will be. Between thorough cultivation without irrigation, and irrigation without any cultivation, for most kinds of land, there is now little room for question. Nearly any one of sense would now decide in favor of the former—the very reverse of the judgment nearly every one would have given fifteen years ago. But the two judiciously combined are just as superior to either alone as vegetables and meat combined are superior to either one alone. Just as thorough cultivation will double, triple, or even quadruple the yield of irrigated land, and also improve its quality, just so will judicious irrigation double, triple, or quadruple the yield of anything grown upon cultivated land, and much improve its quality instead of injuring it—an effect that may sometimes be produced by excessive or injudicious use of water. Even the live-oaks and other native trees and shrubs, and the olive, pepper-tree, eucalyptus, and other natives of dry countries that live here on the very driest soils, are improved a hundred per cent by a very little irrigation without any cultivation at all. On most of the land of the drier belts, especially the table-lands, which, on account of warm nights, are the most valuable of all, irrigation is a necessity for good success with anything.

For many things, such as vegetables, berries, flower-gardens, ornamental shrubbery, lawns, alfalfa, oranges, lemons, and a hundred other things, irrigation is an absolute necessity on almost any soil. The plants or trees may indeed be made to live without it; but it will be little more than living. However good the fruit upon a young orange-tree may be without watering, when it becomes older and bears more fruit it becomes like the full-grown man for whom the bottle of milk that sufficed when he was in his cradle is no longer enough. And after winters of insufficient rainfall, such as must be counted upon in four or five years out of ten, even olives, apricots, peaches, raisin-grapes, and other fruits which generally need no water in summer will, without watering, generally be too small to be profitable, though the vines or trees may live and bear without it. Even where the roots of alfalfa—a perennial clover from Chili that yields stupendous crops of hay six or eight times a year—readily reach subterranean water, irrigation is generally needed to drown out the gophers which quickly destroy it by eating the roots, and water doubles the yield even on the lowest grounds.

Irrigation is again indispensable in making a pretty place, as may be quickly seen in those parts of Los Angeles County where the art of dispensing with water has long been studied, and is now carried to its highest point, and where the rainfall is above the average of that of the lowlands. There are, of course, mountain valleys where watering is needless, but these form but a small portion of the habitable part of the land. The relative prices of dry and irrigable land in the parts of Los Angeles County above mentioned settle the question of values at once; for irrigable land sells readily at from three to ten times the price at which the other goes begging for buyers. Water is also generally indispensable to a place that is to be very profitable, especially if a small one. With a little water one gets started at once. Three acres in alfalfa will keep an ordinary family in milk, butter, and pork, and two more well managed will supply it with vegetables and eggs. On dry land one may have to wait a year or two for rain enough to plant anything, and then may not be able to raise vegetables or anything from which an immediate living may be had.

The discoveries made in irrigation have been quite as remarkable and valuable to the State as those made in the management of dry lands. But twenty-five years ago all that was known about irrigation was the Mexican system, imitated from the native Californians—an incessant drench, drench, drench, year in and year out. This often produced, as it now does in parts of Mexico, good crops; but it is in spite of this, and not by virtue of it. The more common results were small crops, weeds, and in summer mosquitoes and malaria. For such low-growing crops as beans, peppers, or potatoes that might get lost amid weeds, the ground was sometimes treated to a perfunctory scratching—just enough to keep the vegetables in sight; and these were generally so planted that proper cultivation either way was impossible, a style of planting still seen in many places. But tall things like vines, trees, or corn were left to battle alone with the weeds; their size being deemed sufficient to insure them the victory. Trees were often set out by being chopped out of the nursery instead of dug out; the ball of hard earth around them was set in a small hole and stamped in with wet earth. Every few days a stream of water was run over the ground immediately around the trunk, or else the whole orchard was turned by sections into a quagmire. That was all the care they ever had. That they bore at all was a marvel. Some—such as apricots, peaches, and figs—even bore good fruit, and plenty of it. But others, like the orange and lemon, rebelled against such treatment; and the miserable spongy sour oranges, thick-skinned and dry, and bitter lemons, so common only ten years ago, may still be seen where the old style of treatment is followed.

A miner's inch of water is the quantity that will flow

50 "inches" = one cub ft. per second

through an opening an inch square with a pressure of four inches of water above it. This flows about thirteen thousand gallons in twenty-four hours, and would cover an acre one foot deep in about twenty-five days; or fifteen acres one foot deep in about a year. This equals the smallest annual rainfall upon which anything of value can be grown. This miner's inch is the standard gauge for irrigation. South of the San Joaquin an inch flowing the year round is generally deemed enough for ten acres, though this varies with climate and rainfall. At Riverside an inch is needed to six acres; at Pasadena an inch to fifteen or twenty gives fine results. Twenty years ago the average was much nearer ten inches to one acre, with a productive power less than half of that given to-day by an inch to ten acres. Then the sole dependence was upon water. To-day the dependence is mainly upon thorough and constant cultivation, using the water only to supply that needful *little more* which even the finest cultivation positively refuses to furnish even when winter rains have thoroughly soaked the ground. But the necessity of that *little more* for many things makes water as important as ever, and its value is constantly rising, though less and less is used.

When the water is applied more than an inch is used, but the amount required for any piece of land is estimated on the basis of an inch flowing the year round, to so many acres. Sometimes a stream of twenty or thirty inches is used at a time. This would cover an acre a foot deep in a day. But it is not applied in that way. Except for alfalfa and such things, only a part of the ground is wet. In some places the whole system of handling the water is changed, as at Pasadena. Iron pipes have there taken the place of open ditches, and the water is used mainly through hydrants and hose. Trees are irrigated by a pool of water around the trunk, retained by a rim of earth, and often by running water in numerous small gutters in the soil between the rows. But, whatever the mode of watering, the ground between the trees is kept constantly stirred during the dry season. This makes the very perfection of agriculture, an inch of water tripling or quadrupling the yield of fifteen or twenty acres, and improving the quality of fruit, yet causing no malaria, mosquitoes, or other old-time objections.

Water for irrigation is often procured from wells by windmills, steam-engines, horse-power, etc. But all such are expensive or annoying—generally both—and the only thing that makes a settlement of any consequence is a natural flow of water either by striking ancient river-beds and getting artesian water at a short distance, as at San Jacinto or San Bernardino; or by ditches, flumes, or pipes from a running stream, as at Santa Anna and Ontario. Before such facilities, the windmill folds its sails, the pump-horse is turned out to grass, and the engine sold for old iron. The development of water by tunneling hill-sides and washes, as well as by catching it in time of heavy rain in reservoirs, as in Mexico and India, is as yet in its infancy. Much has been learned, yet much remains to be learned, and in the saving and use of water more may be learned in the next thirty years than has been in the last thirty.

The lessons inculcated here might be applied elsewhere with advantage. The great and certain results of judicious irrigation would be of great advantage in many parts of the East during the dry spells so frequent there in summer. When the water-supplies of New Mexico and Arizona, limited as they are, are developed and used as water is here, and their lands cultivated in the same way, vastly different results will be seen over large tracts that are now considered fit only for stock-ranges. And if old Mexico ever learns to use her immense facilities for irrigation as economically and sensibly as California does, and learns to cultivate her unirrigable lands on the good rain belts (or even on the dry belts, where subterranean water is close to the surface), she will speedily pay her national debt and have money to lend. With a system of farming that in California was worthless, and could not now keep a hundred thousand people from starvation, Mexico supports eleven millions of people, and has over fifty million dollars' worth of produce to export. What, then, will be the result when she adopts the new system that, in what she once deemed the poorest of her provinces, with most of its best land still untilled, already supports nearly a million of people, and leaves a surplus to sell that would feed and support ten millions more?

CHAPTER XVII.

PRODUCTION.

So much silly trash has been written about the results and profits of farming and fruit-growing in California that it is with much hesitation that I venture even to glance at them. Space forbids any full consideration of the subject; but a careful study of a few facts, aided by caution and good common-sense, will give one a fair idea of it.

Nearly all that has ever been written of the productiveness of California is literally true. The error lies in weaving a lot of exceptional truths into a fabric which is quite certain to be taken for general truth. This error is often intentional, though it may be also honestly committed, as it was by the author of a once celebrated book on California, who saw it in one of its best years, and was wined and dined and piloted about where he could see only the rosy side of things It is also quite common to suppress many important qualifications either because they are too numerous to state, or because it is assumed that the listener or reader knows enough to make them for himself. And many such modifications are, in fact, so obvious to every adult person who has ever been outside of a city that it is one's own fault if he is misled by the failure to mention them.

For instance, it is just as true that beets here reach a size of one hundred pounds and over, that sixty bushels of wheat are raised to the acre, that huge pumpkins or squashes lie so thick on the ground that one can walk all over the field on them, as that in the Mississippi catfish have been caught weighing fifty pounds, or in Dakota forty bushels of wheat are raised to the acre. There is nothing clever in offsetting such statements with absurd sarcasm about strawberries weighing fifty pounds apiece "back in my country," or growing pumpkin-pies over night ready for dinner next day, etc. If any one is so ignorant as to conclude from such statements that such a crop of wheat can be raised here, anywhere, or in every year, or on a large acreage; that a double crop of squashes implies double profits; or that one-hundred-pound beets are one hundred times more profitable than one-pound beets; or that the person making the statement really intends to convey such ideas, it is his own fault, and not that of the person who fails to annex all the proper qualifications. So, too, those who call it the land of "perpetual" or "eternal" sunshine do not mean that literally, but suppose the reader capable of making the proper exceptions.

Applying such and similar qualifications which the slightest familiarity with country life in the East, combined with a moderate share of common-sense, will suggest, one may believe any statement about the products of the soil of California just as implicitly as the statements about the big trees. So many pamphlets, books, circulars, folders, etc., are scattered over the East containing information of this sort that I shall trouble the reader with none of it.

Southern California seems to produce with proper care nearly every kind of tree, shrub, grass, grain, herb, or tuber that is at all common or useful in the temperate zone, together with a large number of those of the tropics. Most of the products of the temperate zone reach here their highest perfection, while many of those of the tropics do the same. Yet the most of the latter can be grown only in certain places, and even there may require nursing; such as the banana, whose tender leaves are frayed and tattered by the steady action even of the gentle sea-breeze, and may need protection. Special soils, too, and elevations are adapted to special products. The best oranges cannot always be grown upon the strongest wheat-land; the best apples, cherries, gooseberries, and potatoes can rarely be grown under an elevation of two thousand feet, or even more; while the best land for raisin-grapes may not produce the best wine-grapes, and *vice versa.*

California has been painted in such high colors that the reaction from contact with the reality naturally makes one hypercritical. And this is farther increased by the folly of the Californians in boasting of the size of things. Apples grown along the lower levels are quite apt to be dry and deficient in flavor, although very large and fair to the eye. Vaporizing about the size naturally disposes one to criticise the contents when they turn out inferior. This is often very just, as when one boasts of a sweet-potato weighing ten or fifteen pounds; a great waxy, water-logged abomination, the size of which is merely conclusive evidence that it is unfit to eat. On the other hand, many Eastern visitors are hypercritical for the sake of showing that they know something. *Parvenus* from Wisconsin or Nebraska talk as if they were raised on Massachusetts fall pippins or New Jersey sweet-potatoes, and Texas shoddyites as if raised on beef stall-fed with corn-meal. Others, who would have you believe they have traveled, judge the entire orange-product by what they happen to find on the first hotel tables, and calmly pass a sweeping judgment upon the whole potato possibilities of the South by the black, soggy, hollow-cored importations from Humboldt County which the hotel-keeper buys because they are cheap.

Some things will be at times inferior to those of the East; such as strawberries, which may be quite sour in winter and early spring because the weather is not hot and dry enough; or blackberries, which, coming much later, may be so simply because it is hot and dry. Sweet-potatoes are generally inferior to the best Eastern ones, and so are parsnips. But not because they grow in California. The sweet-potatoes are bad because a good, dry, mealy sweet-potato can be raised only in sand, and here they are generally planted in good soil, soils sufficiently sandy being very scarce even if the farmers knew enough to plant them there. And the parsnips are bad because a parsnip is hardly fit to eat anywhere without lying all winter in frozen ground, and that is rather scarce here, even in the high mountains.

All countries raise three kinds of fruit; good, bad, and indifferent, with a decided tendency in the indifferent to predominate. Southern California is no exception. Its best fruit is the very best in the world; its worst, the very worst. In the East it has long been the proper thing to say that "California fruit is insipid. It is very fair to behold and a fine thing to set off a dinner-table or fancy sideboard, but not to eat." All of which shows that you know something, and have associated with people of quality who have money enough to be judges of good eating. Now, this remark is quite true, but very misleading, because it implies either that all California fruit is insipid, or that which is so is necessarily so. Much of the California fruit seen in the Eastern markets is indeed insipid, but not because it grew in California. It is because it is over-irrigated, which would make it flat anywhere. Horace noticed this eighteen centuries ago.

> "Caule suburbano, qui siccis crevit in agris
> Dulcior; irriguo nihil est elutius horto."
>
> *Sat. IV. Lib. II.*

The California fruit-grower knows this as well as any one. He knows, too, that the world judges of fruit mainly by size. He may have learned by bitter experience that it is quite useless to tell the world that smaller fruit may be of better flavor. He therefore bloats it with water under a warm sun to a fair but false exterior.

Upon the character of the apricots, and those fine varieties of grapes that cannot be grown East, there is no room for dispute, California having substantially a monopoly of them in the United States. It is certain that these are, and always have been, the least open to criticism of all California fruits. Opinions differ upon the oranges. Even the orange-growers here are by no means united. It is generally conceded that those of Florida are sweeter and more juicy, while those of California are higher-flavored, but have more pulp. The California oranges have more sugar, but also more acid and less water, and become sweeter with age. All this applies, however, only to the seedling oranges. The choice budded varieties that are now taking the place of the seedlings, and are treated to a very different cultivation, would be a credit to any country in the world. There is at present no appeal from the verdict at the New Orleans Exposition, where the Californian oranges took the high premiums over the best of Florida. But their great advantage is that they are in their prime months after those of Florida are gone, and keep for weeks, where the latter keep only for days; hanging ripe and uninjured upon the tree for five or six months. Yet orange-growing is but in its infancy, notwithstanding all that has been learned about it.

The fruit-growers of Southern California have had to contend with great difficulties, and there is probably no other place in the world where so many men could have struggled so long and so steadily, and at such a constant loss, with difficulties so numerous and apparently insurmountable. The ease of glutting the home market, the cost of transportation elsewhere, the danger of loss or damage in transit, the great temptation to cheat offered to commission-merchants dealing at such a distance, and the profits of middlemen, even when dealing honestly, have brought many a producer in debt when, after years of toil, disappointment, and expense, he had at last succeeded in raising something good to sell. Long and costly experiments with wines and brandies had to be made with little hope of immediate reward. For a long time after they had learned to make a good quality of both, the snobbishness of home consumers refused to patronize them. And even to-day both have to beg their way into the favor of the wealthy, both at home and abroad, under French labels. Similar difficulties and many more too numerous to mention, of which Eastern fruit-growers know nothing, along with birds and bees and bugs, rabbits, squirrels, gophers, and what not, have beset nearly every man who has attempted to wrest a dollar out of the soil.

Yet through all the clouds they have ever seen one star of hope. The land would produce a variety, quantity, and quality which no other land could equal. They would one day find out how to conquer all difficulties, and the world would yet recognize the worth of what they could raise. They had only to wait, and where a pleasanter land in which to wait? The majority of them had come here for climate, and were here to stay, whether the land paid their way or not. Many were rich; perhaps the most of them were. With them it was largely a matter of pride and amusement. But those who were poor kept on as bravely as any, and when the storekeeper foreclosed his mortgage, they got another place and went at it again.

In many countries such perseverance would have been in vain. But here it could result only in success. There was absolute safety in predicting it. The only question was *when*. The results were delayed largely by the fault of the producers themselves. France and Spain learned ages ago, by such insensible degrees that they probably never were aware of it, that merit is of little use without a reputation, and that to win a reputation honest packing and an honest brand are indispensable. As man learns nothing from the experience of others, California had to find this out for herself, and had only a few years, instead of centuries, in which to do it. Anything that would fill up a box was labeled *Oranges*. Grape cider fit only for vinegar, and sweet, sickening compounds that would produce headache more quickly than a green hickory club, flooded the Eastern market, under the name of "California wine." Mere dried grapes, dried on the ground and full of grit, bugs, etc., were sent East as "California raisins." Such folly could produce but one result. Folks had sense enough to discover it before too late; the practice was generally stopped; and the results of the stoppage have been already apparent in the increased demand and price in the Eastern markets.

In these and other respects probably no people ever learned so fast as the people of Southern California. The improvement in wines, raisins, dried, evaporated, and canned fruits, has been very great. But the improvement in the orange is perhaps the most marvelous of all. Only ten years ago, about the only orange obtainable even in Los Angeles, then the orange center, was a great coarse thing, black with scale, mostly skin and pulp, with a spoonful or two of sour juice scattered through it. Though some were better than others, it was a difference only of degree, *less bad* instead of *better*. The fine clean thin-skinned, sweet, juicy, heavy orange of to-day was then never seen in market, and hardly ever anywhere else, because they did not know how to raise it, even if they had the trees. The wildest enthusiast about California in those days would not pretend to compare its oranges with those of Florida. The only market then was San Francisco, and the entire crop of the South did not exceed the thirty car-loads of the first two orange trains that went East at the opening of the present shipping season. Until two years ago not an orange from here went East of the Rocky Mountains. A heavy reduction of freights started shipments, and last year twelve hundred car-loads found a ready and paying market from St. Louis to St. Paul, and as far East as Indiana. This year the shipment is much greater, and regular fruit-trains are now run on express time to Chicago. Almost an equal improvement is visible in other things. Raisins, well cured and packed, no longer have to beg a purchaser. The new winery at San Gabriel is the largest in the world, and, with several others, takes at good cash prices all the grapes that can be brought to its doors. Similar changes are taking place with canned and dried fruits. The result is that everywhere the wheat-field is turning into an orchard, the sheep-range into a vineyard; for the isolation is at last broken, and the market can never again be merely local.

The land produces at times stupendous crops of grain. But in the lowlands the failure of the winter rains causes too much uncertainty in five years out of ten; and those mountain regions like the highlands of San Diego, where sufficient rain is a certainty, are too far from market, and such produce needs too much heavy hauling. Moreover, all kinds of machinery are expensive, and the California farmer must have a machine upon which he can ride. Raising grain by irrigation is not profitable, except in a few spots in the San Joaquin Valley, and is not attempted. Heavy crops of corn are raised on low, damp lands, and even on high uplands after a winter of sufficient rain; but corn cannot be exported at a profit, and, like barley and hay, must be fed up at home to stock. All kinds of vegetables and garden stuff can now be raised in great abundance and perfection with water, but there is little profit in competition with the Chinese and Italians, who live cheap and are not afraid of the hoe and the spade, or of anything that cannot be ridden.

And does production pay?

Emigration documents give but one answer to this question. It is scarcely necessary now to warn any intelligent reader against the standard "ten acres is a competency" article so common in all these documents, in which expenses and income are figured up with a handsome net profit, which shows that one could soon be a millionaire by the simple process of extending his acreage. "Ten acres *is* a competency" to make a failure of. We even have those still among us who claim to have been sufficiently amused with five. Such figures are generally true, just as is the story of sixty bushels of wheat to the acre. But they are utterly false in effect, because, in general, they represent only what would be the case if Nature always did her duty, and man were a nice little angel fond of encouraging merit and industry by paying the highest price for everything he buys, and asking the lowest for his labor or anything he has to sell.

It is certain that fruit-culture has not paid in the past, except in a few cases through special facilities for supplying local markets. It is equally certain that it is paying now, if the time, money, and interest spent in working out the problem be left out of the reckoning. It is equally certain that it will continue to pay in an increasing ratio, and will never cease to pay, at least, a good profit over current expenses; subject, of course, to the influence of distance from shipping-points, and similar things that would affect profits anywhere. In places unusually well adapted to oranges, raisins, etc., with good shipping facilities, the profits are now often enormous, especially where the vines and trees have reached their prime. And there are places now where twelve or fifteen hundred dollars an acre for a ten-year-old orange orchard with a water right is a very cheap investment, though one must, of course, use great caution about finding them.

p. 166 And is farming profitable?

p. 168 [illegible] This is discussed elsewhere, or rather facts are given from which one may draw correct conclusions. It is certain that the old style of farming does not, never did, and never will pay. It is equally certain that good, careful, close farming, such as pays in New York, Pennsylvania, or New England, is profitable here. That is, it is profitable just as it is there; it produces a good, comfortable living, with an occasional balance in bank, but in the long-run little more than a good living with only a few dollars over to luxuriate on. Nearly all the farming, even in the best of the Western States, has for years been doing no more than this. Even in Minnesota, since the falling-off of the high prices for wheat, immediately following the war, the farmers in the very best parts have made no more than a bare living, and many have failed to do even that. It is idle, at this day, to expect to make much money out of farming anywhere, except where new land may yet be had at government prices. All the advantages over other lands that California offers general farming to mere farmers are in the way of comfort and ease, and freedom from climatic annoyances.

CHAPTER XVIII.

WILL THE CLIMATE CURE ME?

BEFORE answering the above question and several others,—such as, How is your climate for consumption? How will it suit my case?—it is necessary to ask, What do you expect? What do you know about climates in general? What do you believe to be the effect of the best climate imaginable upon affections of the throat or lungs? Only when such questions are intelligently answered, can an honest answer be given. An honest answer about any country or climate on earth can never be satisfactory to the majority of invalids, for there is no *sanitarium* or health-resort where people do not, intentionally or unintentionally, hold out to the invalid delusive hopes upon this point.

The invalid in search of climate is generally a person who, previous to losing health, has never given a thought to the subject of climates. He often does not know whether the annual rainfall at his home is ten inches or fifty, whether it takes one inch or a dozen to make a heavy storm, or whether it needs three inches or thirty to raise a crop. He has perhaps lived for years in some of the severest climates of the East without ever thinking or caring about such things. Failing in health from overwork, overworry, dissipation, hereditary tendency, carelessness, or some other cause with which the climate may have little or nothing to do, he thinks of a change only when doctors' prescriptions, patent medicines, nostrums, natural healers, and electric belts have failed. Or perhaps he is a man of good sense whose physician has early advised a change, but who lingers to finish up some business or to stay a little longer with his family. Or it may be that both he and his physician have little hope, yet think the last chance worthy of trial. In any event, he comes with rampant hope, his fancy picturing a land of dry, warm air with ever blue skies. Of course, there will be no cool winds, in fact, no winds of any sort but such as are pleasant to his fevered cheek; no damp air, no fogs, no cold nights. The land must, however, flow with milk and honey, that he may be well fed and have such change of diet as the caprice of his feeble appetite demands. Especially must he have cream and plenty of milk to drink, with good butter galore, and a due variety of meats,—juicy, tender, and nutritious, of course. At the same time, a full line of fresh vegetables and fruits is needed to keep his "liver in order." Eggs, fresh fish, and other "brain-food" are also valuable. They "act upon the nervous system" and "restore vitality." There must also be "life" and business, and plenty of society, that he may find amusement and not suffer from *ennui;* first-rate hotels as a matter of course, and something to see when he walks or rides.

Thus laden with notions, and perhaps with the nonsense some goose of a friend here has written him about his special "regular little Paradise," he starts for Southern California. He goes to it as to some highly-praised doctor, a specialist whom he makes a long journey to see, paying in advance a large fee in the shape of a railroad-ticket, loss of home comforts, and other privations. Is it not natural that he should expect immediate benefits in return for such a fee? What right has such a doctor to be anything but soft and gentle? What right has he to neglect such a patient to attend to the sufferings of a lot of farmers and gardeners? He lands in California and—

"Gracious heavens!! Who could have thought it?"

He looks again to be sure.

"Yes! It is too true. *It is raining!*"

Now, who would believe that that man took the train next day for home? Yet, incredible as it seems, it is precisely what hundreds have done. People have actually entered San Diego Bay in the morning, intending to spend the winter, and left for home the same evening without getting off the steamer, simply because it was raining. Others fly from Los Angeles to Santa Barbara, expecting to find it drier farther north, and, reaching there before the storm has finished, leave for some other place. Perhaps they reach another place when it has cleared up, and clear, warm days appear again for six weeks or more. And then, Aha! how delightful the new place, and how execrable the other! (perhaps not fifty miles away in an air-line, and having then the same clear weather.) In a few weeks it rains again, and then the whole country is a fraud; they have been grossly deceived, and the climate is not, in fact, as good as the one they left (on the shores of Lake Michigan, or in New England perhaps). That the new grass started by the other rain is turning brown; that thousands are praying for rain; that the records of the U. S. Signal Station show the yearly rainfall to be the very lowest possible for any land inhabitable by comfort and culture is nothing. The fact that they staid at home all through the rainy summer and fall without a murmur, waited too until the rains had turned into snow and sleet, when they might here have had all the dry, warm sunshine they wanted,—all this is nothing. They came for fine weather, and they want it, pure and unadulterated. A child ought to have some idea of the amount of rain necessary to make a country comfortably inhabitable. But they did not come here to think, but to be cured; not to examine records, but to enjoy fine weather. And, above all, they did not come to have their misery insulted by being told that it is a good thing for the farmers and fruit-growers.

Such persons should stay at home and die in comfort, instead of making themselves miserable by searching for what they never will find on this earth—the invalid's ideal climate. Especially should they avoid California. It is a land where people not only raise all they eat and have plenty left to sell, but where they raise the greatest variety and in the greatest perfection. It gets along with less rain than any other inhabitable part of the United States, but must have some every year, and at least once in two years needs as good a wetting as every Eastern State generally gets every spring. Before such an invalid tries Italy, let him read what Hawthorne, in "The Marble Faun," says of winter there. Before trying Mentone, Southern Spain, France, or Algeria, let him read what Dr. Bennett (a London physician who, for his own health, tried all the climates of Europe and Northern Africa) says of them in his extensive work on climate. He will find himself well described.

"Instead of bracing autumn they expect flowery spring and fly disappointed from place to place, vainly seeking for summer in the middle of winter—a thing that really does not exist outside of the tropics."

The truth is, that false ideas of climate not only spring from the invalid's imagination, but are propagated—often with the best intentions—by others. It is probable that none of the celebrated climates are near the commonly received opinions of them. Rain falls occasionally even in "rainless Egypt." Frost forms in places even on the great Sahara and on the Upper Nile; and any one should know that from the great snowy mountains that guard the Mediterranean on the north cold winds must sometimes come.

"The finest climate in the world." "Never above 80°, never below 60°." How often have we seen these statements—which can be traced back to Humboldt, and are free from any suspicion of advertising—about the City of Mexico! The elevation alone, 7500 feet above the sea, should teach any one better, even if he had never seen the great fields of snow on Popocatapetl and his twin sister. Official records of the observatory there show that the temperature falls below freezing almost every month in the winter, and has gone as low as 20° Fahrenheit, though the days succeeding are warm. Frosty mornings with warm days, for a week or two at a time, are a matter of course every winter. One of Prescott's annotators criticises him for saying that Cortes landed one time in a fog, adding, "Such a thing as a fog in the valley of Mexico is impossible." Possibly the present writer is not a judge of fogs, but he has seen there, for a week or ten days in succession, hanging over the city until eleven or twelve o'clock in the day, something that would pass for a fog in New York, and might be mistaken for one even in London. The climate of the City of Mexico is indeed a fine one, but there can be no part of the world where some defects are not found in the climate, and it is quite impossible to avoid one fault without encountering another. Thus, damp air cannot be escaped without getting a greater radiation of heat from the earth. Just as surely as a cloudy night remains warmer than a clear one, just so surely does invisible moisture in the air retain the heat of the earth by checking the radiation, and just so surely does its absence increase the rapidity with which the earth loses heat. Hence a greater difference between sunshine and shade, and between day and night, especially in the short days and long nights of winter; when in the temperate zone the earth receives little heat, and has several hours more than in summer in which to lose it. Cold nights are the price that must be paid for dry air the world over. It cannot be otherwise, except from some limited and local cause, such as a current or stratum of warm air at a particular elevation above the bottom of a valley or on a hill-side, or something of that nature. Much increase of elevation above the sea only increases this effect by lifting one into thinner air. And all grand mountain scenery is quite likely to turn white in winter, even far down in the tropics. And that will often make still colder nights, frosty mornings, and even cause chilly winds by day. Such effects can be escaped only by getting into damp air, or air where the loss of heat from the earth at night by radiation is partly compensated for by some large body of water near by —on a sea island or the seashore. But in the temperate zone at least there are few or no such places that do not have rain and occasional fogs, and in the tropics the chances incline towards malaria, insect pests, and other troubles.

Any one who will study the conditions upon which all climatic effects depend will find that the ideal climate of the invalid exists nowhere on this earth, and that if it did, no one could live there without importing about everything to eat or drink. One must consider what is obtainable, and not what is desirable,—obtainable in the temperate zone and under good government. Neither cold nights nor occasional rain or dampness injure the invald one tenth as much as he imagines. If they do hurt him, it is pretty sure proof that he is beyond the help of climate. Had he staid at home wintering in-doors, he would hardly have noticed the change of weather outside. He may be steadily failing, but not because it rained a few days or because a fog rolled in in the night, to roll out again before he was up in the morning, or because of a hoar-frost that was gone before he could see it. There is some bad weather here, of course; but it is bad only by contrast with the long train of soft and brilliant days. If there is a frost, it is because the night was clear, for it is only on clear nights that the thermometer here can ever fall low enough for frost. In such case the day is sure to be clear, and the sunlight falling through the dry air quickly heats it to a comfortable point. What few fogs there are come in from the sea at evening, roll out at sunrise, and are nearly always followed by a clear warm day. And if in fall or early winter the winds from the desert are sometimes too strong for comfort, they are always dry, invariably above 55° in temperature, and there are places enough where they are hardly ever felt.

The general character of the seasons has been considered elsewhere. In addition one may judge from the formation of the country that it is a land of different climates, where almost any kind but the very damp or very cold may be found in a few hours' travel.

The great advantage of the Southern California climate is, that instead of being a place to flee from at the coming of warm weather, it is the very place of all the world where the invalid should stay. There are places enough in Mexico that can equal its best winters and excel its worst ones; but probably no land on earth can equal the comfort to be found in its summers by one who has nothing to do but to seek comfort. The mistake made by nearly all invalids is the assumption that there is no need of coming here before winter; that because the winters are warm the summer is unpleasantly hot, malarious, and full of insects; that, as in Florida, winter is the only thing worth going for, [illegible] that when it is over the proper thing is to leave at once for the North. If an invalid is to receive any benefit of consequence it is probably the summer that will do it, and perhaps the summer only. And one can scarcely commit a greater folly than to return at its commencement to the land where ill-health began. By such folly the whole career of the writer has been reversed; by such folly hundreds, who, like him, heeded not the warning and mistook the beginning of a cure for recovery, have lost their lives. The number of people here who were once invalids, but who now appear as well as any one, is very great; but nearly all are people who have never attempted to return to their old homes, people whom the summer has helped far more than the winter.

To the general question, Does the climate cure diseases of the throat and lungs? it is common to reply with instances of Mr. A, who came here on a stretcher and has gained so many pounds; Mr. B, who couldn't stand up; Mr. C, who couldn't speak above a whisper, etc., etc. All this seems foolish talk, for change of scene and occupation, with amusement or rest, are constantly producing such effects without any change of climate, and are the main basis of the reputation of the water-cure establishments and other places where patients recover in spite of slow starvation with water and bran. All talk about ozone, electricity, and such things in the air seems equally foolish. There is, probably, no positive agent in the air here that is not equally effective in Boston or Milwaukee. The invalid generally looks upon consumption as a sort of sore upon the lungs, to be cured like a burn, by some emollient medicine, and thinks that all he has to do is to sit down and inhale the remedy. Many such do indeed get well, but it is because they were but lightly affected.

The truth probably is that climate is nowhere a medicine, but only a condition of cure—often an indispensable one, but still only a condition, and not a specific. Where bad weather aggravates or excites a complaint, like catarrh, and throat and lung diseases arising from its extension, a climate having little or no bad weather may, by the removal of irritating causes, appear to cure them. Such cure may be actual, but is also liable to be, for a long while at least, only apparent. But time and increase of vitality by building up the general strength are the only true reliance for any permanent cure, even if it is only a partial cure. If any one is so far gone with consumption that he can merely sit down in a hotel and keep up strength with tonics until the air can cure him, he had better remain at home. No part of the world can offer him much hope.

Far different is it for one with sufficient strength, especially if one of those fortunate mortals who are not lost the moment they step beyond the limits of a city. Give such a person a land where he can spend out of doors the whole of three hundred and thirty days in a year, and nearly one half of the rest where every prospect pleases, and temptations to walk, ride, hunt, or stroll are on every hand, and where cold and dampness are reduced to a minimum, while malaria is entirely wanting; where dry air increases his appetite, and in summer makes the cool nights that give him sound sleep; and let him make up his mind to stay at least a year, and the chances are a hundred to one that he will recover if he makes half a use of such advantages. He may not recover so that he could with safety return to his old home and resume his former business, but he may recover so that he could enjoy a long life here, and perhaps anywhere, by taking care of himself and keeping up his general strength. But did the climate cure him? Or did it merely furnish the conditions under which a man of sense could cure himself?

Ennui is the great foe of the invalid at a sanitarium. He needs something besides dry, warm air, something to attract him from the hotel veranda or the billiard-room. The "sunbath" on the porch will help his appetite but little, and the tumbler of cream upon which he places so much reliance will not take the place of the beef he might have eaten had he spent two or three hours among the hills with his gun or ridden a few miles among the orange-groves, vineyards, and gardens.

No climate offers any positive medicine that can be honestly recommended. But that of California offers a freedom from exciting or aggravating causes of disease, combined with a set of conditions of cure, that no other inhabitable land, taken the year round, can offer. An important feature of the climate is its healthfulness for children. An unclean town may, of course, aggravate diphtheria or other complaints here as well as elsewhere. But, aside from local causes, children's diseases are much rarer and milder than in the East. Dysentery and cholera-infantum are very rare, while the "second summer," so much dreaded by parents in the East, is here scarcely different from any other. The effect of the constant out-of-door life is not necessary to mention.

Yellow-fever has never made a lodgment on this coast, though ships with it on board have entered the harbors. It could never spread much if it did, and, as it never lives at an elevation of over twenty-five hundred feet, could be easily escaped. The effect of the climate upon bilious complaints is quite as remarkable as any of its features. All through the East are large tracts where many people are constantly troubled with "biliousness" in warm weather, though no intermittent fevers or ague be found. One would suppose it would be worse in this Southern climate. Of course, such effects may be produced anywhere by inaction and overeating certain articles of food. But where one takes any amount of exercise and the slightest care with diet, it seems that the hot, dry climates are the healthiest. Malaria may be locally produced by excessive irrigation of large tracts, but that is done no longer in the South, for water has become too valuable to waste. The complexions of the people show that "spring physic" is but a memory of the East, and "blue mass" a thing we once heard of. Calomel is used only to keep the flies out of sores on live-stock, and quinine only as a tonic by invalids too weak to stir up an appetite by exercise or amusement.

CHAPTER XIX.

HINTS ON COMING TO CALIFORNIA.

THE many letters received by residents of Southern California from Eastern friends asking advice about moving to California make it certain that a few hints upon that subject will not be out of place.

And first, why do you wish to come? To better your condition? If doing well where you are, is it wise to risk transplantation anywhere? Is not *stay where you are doing well* good advice the world over? If you are not doing well where you are, it must be because you are indolent, ignorant, or unfortunate. You must fall within one of these three classes. If too indolent, you may rest assured that this is just now the last place to live without work or money, though one may certainly *exist* here more easily than elsewhere in the United States. If ignorant of work, this is no better place than any other to begin learning. If your failure comes from ill-fortune, other than ill-health, it will be well to remember that while California has been the largest "lucky-bag" in the universe, it has differed from others only in the size and not in the number of its prizes.

If you are a professional man, book-keeper, or clerk, you may possibly do as well here as in the East, where all avenues to a living are now thronged.

There are plenty of openings, and always will be, for the honest, energetic workingman with a fair amount of "gumption," who will make his employer's interests his own. The Chinese can never supply the large and increasing demand for such men. The Chinese only fill the place of the man who drops his half-raised shovel of earth back into the hole at the sound of the whistle or bell rather than toss it out; of the man whose favorite motto is that "it is as cheap to play for nothing as to work for nothing," meaning by "nothing" anything less than the very highest wages ever paid; of the man who saddles his horse and starts for the groggery when his employer starts for town; and of the man who never does anything except what he is specially told to do. Such are the majority of the white men whose places are here filled with Chinamen, because the Chinaman is no meaner than they are, and is much cheaper. But no one considers a Chinaman half a substitute for a reliable white man.

It is common to answer inquiries about government land by saying that "there is plenty still left,"—an answer literally true, because there are millions of acres of it left. But it is like the witches' answer to Macbeth,—keeping the word of promise to the ear, but breaking it to the hope. Every nook and corner has long been explored for arable public land, and about everything that a new-comer would naturally expect to find has long been taken. If the records of the Land Office show many new entries, it is because people are now taking eighty-acre tracts to get perhaps ten acres of arable land, and one hundred and sixty to get fifteen. This may still be done, but is not what an Eastern person understands by "getting government land."

Plenty of cheap land, however, remains, and of as good quality as the highest-priced. The Southern Pacific Railroad still has considerable, and there are many large ranches that may be had cheap by taking the whole. But by *cheap* I do not mean cheap as that term would be understood anywhere east of the Colorado River,—cheap for raising grain, stock, or for general farming. It is cheap only for the purpose to which the lands of Southern California are fast being devoted,—the raising of choice fruits that cannot be grown in other States of the Union, and the making of comfortable homes by people of means who are weary of the long siege of the elements elsewhere. It is quite useless for you to quarrel with these prices, to call them "fancy" and not intrinsic values, and to declare the true value of land to be the principal of the interest that can be made out of it. We know all that, and long since talked the same. But the best lands of Southern California, especially those capable of irrigation, are as much an exception to the general criterion of values as the banks of the Hudson or the rolling hills of Staten Island. Their prices may be based upon a false foundation,—to wit, climate, scenery, and general comfort. Nevertheless, people pay them. This has been going on for years, and is constently on the increase. Year after year rapidly increases the number of those anxious to buy and improve. Who dare say when this will stop? That lands are in many places too high, even if judged by this standard, in no way affects the correctness of the standard itself as compared with the common standard of Eastern farming-lands.

So steady in its advance has this demand been for years that the shrewdest and wealthiest business-men—men familiar with Florida and all the pleasure resorts of America—consider it a certain basis of calculation. In no other part of the world equally remote from great commercial centers, and equally unknown, would such a development scheme be even thought of as is now in full headway on Coronado Beach, the peninsula that forms the harbor of San Diego. Its winters are warmer than those of Florida, yet its summers are cooler than those of the coast of New England. Lashed on one side by the long rollers of the Pacific, and commanding a delightful—a marvelous—view of ocean, islands, promontories, table-land, and lofty mountains, it contains nearly three thousand acres of fine land, lying in almost perfect shape to cut into a thousand gardens where tropic fruits will bloom, that the frost might nip on much of the mainland, yet where all the *flora* of the temperate zone will also be at home. It has long been known that this would one day make the rarest watering-place in the world. But when? This year one hundred and ten thousand dollars were paid for it in its native State, and three times as much is being spent upon it before a lot is offered for sale. A steam-ferry, street-railroad, telephone, hotel, bath-houses, artesian-well, fountains, avenues, parks, and streets all planted with every rare tree, shrub, and flower that can be grown in the United States, are under way to be completed before the public is to be invited to buy. And all this is being done by men who know exactly what they are about. As long as men will do such things there is little hope of buying land anywhere within easy reach of market at what you would consider cheap prices. Call it foolish if you choose; but it is a kind of folly that is quite certain to continue. Therefore let no one delude you with talk about government land or any good land at anything near government prices. The good lands of Southern California are high, but it is simply because they deserve to be.

Scarce any one from east of the Sierras knows anything about the lands of Southern California or their management, no matter what he may know of farming or gardening elsewhere. Unless one lays aside all conceit, and learns anew from those who have learned here, one may meet not only vexation, but loss. The only valuable result of Eastern experience, that good plowing and thorough and constant cultivation will improve almost anything, no matter how well it may do without them, is the only part which is generally left behind; most people coming here to avoid such work, and to farm with ease. This experience you may safely apply here, but beware how you cling too fondly to any other maxims of farming.

At every place you will find plenty of philanthropists who will solemnly warn you against risking health, happiness, money, and eternal welfare by going to see the next place. As a rule it will be worth your while to go to that next place just to see how people can distort and falsify, if for nothing else. Every place or section has also a monopoly of something good, some peculiar chemical element in the soil, or special formation of the subsoil or climate, or something which no other place has, and which is indispensable to a respectable raisin or wine-grape, orange or lemon, or something else. Numerous places will have a hard pan below the soil. At the place where you happen to be it will be at just the proper distance below the surface to catch and retain the winter rainfall; and "no irrigation required" will be the leading attraction in every real-estate advertisement and circular. But you will also learn that the next place has it so near the top that they can barely plow; it all dries out at once, and "they can't raise anything there without irrigation."

All this, of course, is pure nonsense. Every part of the land that is easily accessible is well worth seeing, and, if you think of settling, is worthy of examination. With a few rare exceptions, good things can be raised in abundance all over. Nearly everywhere considerable produce can be raised without irrigation, and almost nowhere is that used for grain. Yet nowhere can you find a man who will not prefer ten acres with a stream of water to fifty without it, if he has to earn his living from the soil, or if he wants to make a very profitable or at all handsome place. It is about the same with climate. Every county contains a variety, and every one contains good climates,

—good enough for almost any one. Every county, too, contains belts of heavy and reliable rainfall, and all are abundantly supplied with good scenery, hunting, drives, and out-of-door attractions. All have fair hotels and traveling facilities and accommodations. Some are, of course, better in some respects than others; but believe nobody who tells you there is nothing to see or nothing of consequence elsewhere.

Los Angeles County has the great advantage of having the greater part of its good land very nearly in a body, easily reached by sea or land, with plenty of water in its rivers easily taken out. This caused its development far in advance of many other sections, and made its county seat a railroad and business center, which it is ridiculous for any other place now to think of excelling, or even equaling very soon. It is, and always will be, the leading county of the South, but is not, as many of its inhabitants fondly imagine, all there is of the South.

It is much the same with San Bernandino County, though on a much smaller scale. Most of its tracts of good land lie quite near together, are easily traversed, and nearly all well watered with ditches and artesian-wells. Its best parts are also traversed by railroads.

With San Diego County it is quite the reverse. The arable land, which is equal to any in the South, is scattered in a thousand valleys, slopes, table-lands, and low rolling hills, over a region one hundred miles long and fifty wide, the best parts of which lie away from the railroad and sea-coast, and can be seen only by climbing several mountains or taking an excursion of many days by wagon with a fast team. Though it contains irrigation possibilities of a high order, they are much more expensive to develop than those of Los Angeles and San Bernardino counties, and in its past state of isolation from the world the lands would not justify the expense. It has, however, ten times the amount of good arable land, elevated into a belt of certain and abundant rains, of both those counties together, having a large belt not over fifteen hundred feet above tide-water, where full crops never fail for want of rain. Nearly every one judges San Diego County by the unirrigated lands around the bay; and the percentage of visitors who, after half a day's drive around the bay, coolly pass judgment on a whole county larger than Massachusetts, Connecticut, and Rhode Island combined, would be an interesting item for those optimists who claim that the human race is increasing in intelligence. Of late San Diego County has come to the front with a bound, its long isolation being broken by the completion of the great Atchison, Topeka, and Santa Fé system to San Diego Bay; it will yet stand next to Los Angeles County as the largest producing section, and probably ahead of it in the quality of its fruits. The raisins of El Cajon, and the oranges of National Ranch, the Sweetwater, and vicinity, have this year surprised the experts of San Francisco, and are but samples of what can be done on hundreds of thousands of acres. The work of taking out one of its largest rivers has already commenced, and a few years will see a great change in the now dry lands around the bay of San Diego, which are by far the richest, warmest, and most picturesque of all the table-lands of the South.

The counties of Ventura and Santa Barbara are in much the same situation as San Diego, having large quantities of excellent land scattered in all manner of shapes, much of it irrigable in some way or another, much of it yielding many things quite well without any irrigation. Like the interior of San Diego County, they afford about the best opportunities remaining for men of moderate means, who want a good home in Southern California, and do not object to a little isolation. Like San Diego County, they are also charming places for hunting and camping, being like it, yet unspoiled by development; while the fishing is even better than that of Los Angeles or San Bernardino Counties, the mountains being farther from market than those of the latter counties. The high mountains of Kern, Ventura, Santa Barbara, and Los Angeles Counties contain the best hunting now to be found in the South, even grizzly bears and mountain sheep being still found there.

The valley of the San Joaquin, like San Luis Obispo County, though in the Southern half of California, is not now included in the term "Southern California" as it is generally used here. But that valley has some great advantages in the way of cheap and abundant water in the streams from the great Sierra Nevada. These are being developed on stupendous scales, single ditches carrying as much as all those of Los Angeles County. There is also plenty of very rich land upon which to put it, and the irrigated settlements of the San Joaquin are probably the most productive tracts of land in the world. On the other hand, the rainfall is so much lighter and the air so much drier than in the more southern counties that the very best land outside of the ditches is too unreliable for making either pleasant or profitable homes. Its distance from the sea, and its high mountain barriers on the west, leave it with little of the daily sea-breeze that makes summer so pleasant farther south. But good land supplied with plenty of water is much cheaper there than it is or ever will be in the irrigable parts of the more southern counties, where the climate is so much more attractive and the formation of the land so much better adapted to the making of picturesque places.

There are land-swindles in California, as there are in Florida. But few if any of the land-agencies having offices here could in any sense be called swindles. One might by a little carelessness make a bad bargain, but would rarely lose the whole investment. Though perfect swindles might be carried on by offices abroad, it could not be done to any extent here. The arable land is now so free from timber or brush, so easily seen, examined, and compared with other cultivated land of the same kind, the rainfall and depth of subterranean water so easily ascertained; the whole surrounding country, with its commercial advantages and possibilities, so easily seen from a hundred hill-tops, that no one of any experience or caution could be badly deceived. He who buys land without looking at it may be swindled anywhere, as he deserves to be.

CHAPTER XX.

THE "DRAWBACKS."

"What are the drawbacks?" is a question so often asked about California that it requires an answer. Every land has some drawbacks, and no part of California is any exception to this rule.

Most of these have already been mentioned in one way or another, such as the ravages of squirrels and birds, the occasional drought, and other things. By drought is meant only the occasional failure of sufficient winter rains already mentioned. The long dry summer of from six to eight months is not included in the term "drought" as used here, and is anything but a drawback. That feature of the land no resident would wish to change. Give the land fifteen inches of rain from December to April inclusive, half-reasonably distributed and without another drop, the land will excel in production, acre for acre, any other part of the United States. It is the occasional failure of this that is the greatest drawback. Unless sufficient for vegetation, summer rains would do more harm than good by injuring the dried feed and ripe crops. If sufficient the land would probably be like a tropical jungle, with a moist air, sultry, enervating, malarious, and full of mosquitoes and other insect torments.

Most of the objectionable features are such as any experienced person may readily find out at home by a little exercise of his wits. No one needs to be told that well-traveled roads become dusty, in summer especially, where there is much heavy hauling; that in those parts where the winters are warm, the well-water is not as cold as in the mountains; that green feed is necessary to make good fresh butter, and cold water is necessary to work it. Nor does any one need to be told that the whole is several leagues from Boston or Chicago, and that he may find dull places here; that every opera troupe that comes to San Francisco does not necessarily stop here; and that country towns are country towns, everywhere. A little further use of the reasoning faculties will soon show one that while the prices of wheat, honey, wool, and such things are ruled by the markets of the world, and that such things can always be exported, the market for corn, hay, potatoes, eggs, and similar products here is necessarily local, easily glutted, and that they cannot be shipped East or to Europe at a profit. Nearly all other drawbacks can be readily deduced by any one from facts already given, and from the description of the land and climate. One is the fact that this is now no place for the poor pioneer with no capital but his muscle, a span of horses, a plow, and a wagon; such men as years ago, handicapped, perhaps, by a sickly wife and little ones, wrested a living from the prairies of Illinois or the big woods of Michigan or Wisconsin, and finally built up prosperous homes.

Many things that used to be serious drawbacks have so changed that they are no longer objectionable.

The premium on gold has long since passed away. The diversification of industries on the farm so that produce too cheap to haul to market may be turned into pork, beef, chickens, butter, etc., is fast making the glutting of the home market of little consequence. The opening of through railroad lines and the reduction of freight-rates now make easy the shipment of fruit and other things to the East, and lower the once high prices of everything imported from there. The centers of civilization are now well supplied with schools, churches, and all else that Eastern towns and villages have, and often considerably more; while the most remote mountain valleys that can muster an attendance of five children over five years old have public schools and good teachers.

Many other drawbacks are offset, and often overbalanced, by advantages. The proper management and consequent expense of an irrigating stream is anything but unalloyed bliss, and has little tendency to improve one's saintship; but it increases so enormously the amount and certainty of production, brings such immediate results, and, in most of the warm belts, makes possible such a steady round of growth the whole year through, that it would be a great advantage in almost any country, even where rains were abundant. Potatoes and many other vegetables raised in the lowlands do not keep as they do on the Atlantic coast; but then they can be grown for six or eight months in the year, and, in many places, all the year. The Eastern farmer knows nothing of winds containing so little moisture that they will blight growing grain. But, on the other hand, the California farmer knows nothing of hail-storms in summer, and his ripe grain will stand three or four months without falling, shelling, or being damaged by wind or rain. If the crop of the Eastern farmer, as is often the case now with grain, is so short that it no more than pays the expense of planting and harvesting, the loss is really a total one. But the California farmer gets value received for the last spear of his short crop. He may cut it for hay, in which case it makes the strongest of all fodder, horses needing no grain with it unless working very hard. He then turns his horses or cattle upon the stubble, where they eat the stalks and gather the fallen heads. Or he may let it stand and ripen, and then turn in stock or hogs. Being ripened in dry air without rain, the straw is very nutritious, and the animals will harvest every particle of it. Many of these compensations are too obvious to need mention: such as fire-wood, in which the increased price is more than offset by the difference in the amount needed in winter, etc.

The great amount of time that the climate allows the farmer is a great advantage if rightly used. Yet it generally works just the other way, and is to many a positive injury. It is certain that there are at least two hundred days in the year when the weather is pleasantly cool, like September days in the East, when one can work without ever complaining of heat. It is equally certain that during the other one hundred and sixty-five days both men and horses can work as hard and as long, and with far less danger of prostration from heat than they can in Pennsylvania or Ohio. The dryness of the air and the unfailing breeze make the hottest weather here far less debilitating than the hottest weather in New York.

But why hasten anything to-day, when to-morrow or next week, or next month, is sure to be as good, perhaps better? There is no "fall work" to be done, no winter to get ready for, nothing but to sit around and wait for the rains, find fault with the supervisors, school-trustees, and the lawyers, whittle sticks and eat. Then, why postpone a trip to town to see "the show," or to a distant dance, or a hunt, or a visit to a neighbor whose wine is ripening, simply to do some work that will keep another month or two? This is the prime cause of an incalculable amount of shiftlessness, and actually causes many to do worse instead of better farming than they would do where they had to hug the fire and handle the pitchfork for seven months in the year.

Some things that in the East are generally supposed to be objectionable features of California amount to nothing. The insects and reptiles which are generally thought to make existence lively here have been already considered. Earthquakes a stranger will generally know nothing of until told. Since the coming of the Americans there has been no one hurt and no house injured in Southern California by an earthquake; and the only case known before that is the falling of an adobe tower at the Mission Church at San Juan Capistrano, eighty years ago. All the other old missions built of adobe, some of them like that of San Luis Rey with high towers and domes, have never been cracked in the hundred and odd years that they have stood. Hydrophobia and sunstroke are quite unknown even in the most extreme weather.

The Chinese and the Indians are not, as many suppose, any drawback. No people feel more unanimously or bitterly upon any question than the whites of Southern California do upon the Chinese question. They have no feeling against the Chinese, as individuals, and treat them as well as any foreigners. Scarcely any one would object to a few remaining here, but they are bitterly opposed to the coming of any more, and especially to being constantly insulted by being told that their sentiments are made and controlled by the hoodlums and Sand-lot politicians of San Francisco. We do not believe we ought to be overrun with them at their own sweet will because "our forefathers intended this for a great free country," etc. Nor do we believe that God sends a hundred thousand here in slavery in order to Christianize a dozen of them skin-deep. Had our forefathers lived a year or two on this coast of late, they would have concluded that the open-bosom business had outlived its usefulness, that they had kept an asylum long enough for the oppressed of other countries, and that it was time for charity to trouble itself with home affairs. We think, too, that we can explain their coming in a way much more complimentary to the wisdom of Providence in the choice of methods than the theory of Eastern divines. A vote, the results of which have been steadily ignored in the

East, was called for by the Governor of the State six years ago to show that this feeling was not confined to the rough element of the cities. It was taken at a general election when a very full vote was called out. The total State vote was 161,405: upon the question of Chinese immigration there were cast in all 155,521, showing at least that some interest was taken in the matter. Of these there were against Chinese immigration 154,638, and in favor of it 883. This vote was more unanimous in the country districts than in the cities, and especially in those parts of the South where Kearney, the Sand-lot orator, would have been thrashed and hustled out even more quickly than he was at Santa Anna. This vote undoubtedly represents the whole coast. Two things are morally certain: that a majority of these 154,638 voters were once Eastern people, and that a large proportion of them once felt otherwise. These facts ought to show that there is something about the question that no one can know without living here for a time. There are many who feel that it is enough that two large States and one Territory don't want the Chinese. Why not is immaterial. Even the prejudices of so large a people, when so deep and unanimous, should be respected. To ignore them upon grounds purely sentimental, or for a little trade, felt only by a few cities, is nothing but tyranny; none the less tyranny for being done by a majority in a Republic than if done by the autocrat of the Russias. The better sentiment of this land feels most kindly toward the Chinamen as individuals, and would do all in its power to protect them.

For years it has held the lawless in stern check, and still holds them there. But if there comes a time when it loses its moral influence, and its physical force proves too small, upon the head of those who have steadily ignored the almost unanimous feeling of a great people will rest the blood of the poor, unfortunate coolies who are not to blame, or of unprotected Americans in China. Whatever the future may bring, however, it is certain that there are not now enough Chinese in the greater part of the South to interfere with any deserving white person.

There are no Indians here that any one need fear. Brought up under the Catholic missionaries, and taught to work by the old Spanish settlers who remained after the missions were closed, the Indians of Southern California have always been peaceable, and have submitted with scarcely a murmur to the greatest wrong, next to slavery or death, that a powerful, civilized nation could inflict upon a weak and childlike people. Little has been known of their wrongs, because they have not been borne to the world on the smoke of blazing homes and the screams of tortured white women and children. Our fatherly government, which has so tender a regard for the Apache's feelings that it cannot move him from his home where his knowledge of the water-holes alone is worth all the troopers of the United States, and where he knows every mountain-pass and short cut and camping-place, has driven from the homes occupied by themselves and their ancestors, from time immemorial, thousands of the poor, peaceable Mission Indians;

and given their lands to strangers. Two acres with a little stream of water will support a whole family of them, and fifty acres a settlement of a hundred or more. They have never asked anything of our Government but to be allowed to till the land where their forefathers were born, lived, and died. Yet this slight boon has been coldly denied them, while the freshest importation from a foreign shore has been allowed to take three hundred and twenty acres away from them. Thousands of them, with their villages and all, have been surveyed into the large ranches, and the maps plainly showing this outrage approved by the Department at Washington, though there was no earthly need of thus running the lines. To tell them that they may become naturalized and buy the land as any other foreigner is precisely the same as if a judge should advise a six-year-old orphan that he had a right to appear in court in defence of his rights, and then leave him to look after them himself. What a contrast between our country and Mexico, that we consider so benighted! Mexico treats the peaceable, industrious Indian like a man, and gives him all his rights; the Apache, whom she has tried longer to reform than we have, she treats, not as we do, like a wayward child, merely sowing his wild oats a little too thick, but like the incorrigible coyote that he is. We just reverse the treatment, and even shield our red-handed darling from the municipal law with the army, while the poor Mission Indian is left to answer for crime, alone and friendless, at the same bar with the white man! A tardy effort has been made to right the wrong, but it is too late. The Mission Indians are dying out. It is too late to save them with schools, where their children are taught just enough to raise them above work. There never was any danger from them. There is, if possible, still less from the few that remain, and especially from the miserable, degraded ones that now hang about the towns, to earn in any way they can the living our country has denied them.

California has a reputation for shooting-affrays, and it is too well deserved. But most of them arise from quarrels in the country, among neighbors; often over some such trifle as a school election, a boundary line, or surveyor's corner. Aside from such things, which are certainly more common than in the Atlantic States, life is as safe here as anywhere. In the South robbery and burglary are not as common as in most parts of the East, and there never has been any of the cowboy element that used to figure in New Mexico and Arizona. Even in the wildest parts it would not be tolerated for a day. With the ocean on one side, Lower California on another, and the great deserts on the third, it is not altogether a pleasant country to escape from; and these peculiar boundaries have long made it unattractive to the worst classes of marauders and malefactors, and made both life and property unusually safe, even in the roughest parts of San Diego County.

California has been so absurdly overpraised that too many come here expecting to find a Paradise, where, amid eternal sunshine, flowers. and singing-birds, with every kind of fruit cheap, and everywhere within arm's reach ripe winter and summer of course, they are to take life easy, and live without work. But he who expects to dodge the curse imposed upon Adam without a good balance in bank, or reach heaven without the preliminary ceremony of dying, had better stay away. California is no paradise, and never will be. Man would not let it be, even if Nature had so made it. Its soft climate, wild and varied scenery, its lavish generosity under good treatment, ought to develop the kindlier feelings of man, especially among the class of men that such attractions bring here. But they don't. There are just as many men here of the kind Horace describes as withering away if a neighbor's she-goat bears a more distended udder than theirs; just as many men whose "life work" is to get at their neighbor's marrow; just as many whose bond is as good as their word; just as many who will try to defeat anything they don't happen to have a hand in; just as many who cannot see an honest man on the trail of a dollar without trying to throw him off the scent. Why should it not be so? Are they not all human?

It is a land of solid realities and glittering frauds. As usual, the trash floats on the surface, the good lies beneath. One's first contact is apt to be with the frauds. It takes longer to find out the realities. When you stay long enough to see them and find out that the country is not to blame for your overwrought imagination, the unwise enthusiasm of friends, or the deliberate lies of others, you will begin to like it.

Year after year an affection that you cannot and would not resist winds itself more closely around your soul. Life comes so easily and so naturally; time flies so swiftly, yet so softly! You feel the thread of life fly faster from the spindle, yet you hear no whizz. There are so few breaks or jars in the train of comfort, as the long line of cloudless days rolls on; appetite and sleep hang around you so wooingly in the constant out-of-door life, that you are enthralled before you know it.

There are many who return disappointed to the East after a few days' or weeks' visit. But rare indeed is he who returns to the East after living here two or three years; and still rarer he who stays East more than one winter if he does return.

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